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ABSTRACT

This supplement to a technical report providing the results of a preliminary investigation of the potential impact of the Digital Avionics Information System (DAIS) concept on system support personnel requirements and life cycle cost (LCC) includes: (1) additional details of the cost comparison of a hypothetical application of a conceptual mid-1980's DAIS suite versus a conventional avionics suite used in a close-air-support (CAS) aircraft, both with one major modification/retrofit; (2) appendices; (3) model output reports of the Life Cycle Cost Impact Modeling System (LCCIM); and (4) data used in the comparison. Both non-DAIS historical and DAIS theoretical reliability, maintainability, cost model batch output reports, and data bank equipment identification cross reference lists are in computer printout form. Cost element descriptions and data provided include detailed descriptions of each of the cost levels involved in life cycle cost (LCC), mathematical formulas and sources of data used in computing LCC, special considerations involved in the computation of LCC, and a summary of the LCC computation for each of the cost levels. Reliability and maintainability parameters, lists of cross references, and a list of acronyms are given. A 15-item bibliography is included. (CHC)

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DIGITAL AVIONICS INFORMATION SYSTEM (DAIS): IMPACT OF DAIS CONCEPT ON LIFE CYCLE COST—SUPPLEMENT

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Final Report

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This report has been reviewed by the Office of Public Affairs (PA) and is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations.

This technical report has been reviewed and is approved for publication.

ROSS L. MORGAN, Technical Director
Logistics and Technical Training Division

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Reliability and Maintainability Cost Model

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The Digital Avionics Information System (DAIS) approach to avionics design is a total system concept rather than a functional subsystem or hardware-oriented system. DAIS uses the common processing, information transfer, control and display, and support software elements to service all avionics functional areas on an integrated basis. Thus, the DAIS architecture and core elements are not dedicated to any one specific avionic function, but are used to perform the tasks of many avionic functions with the avionic sensors and subsystems. This systems approach provides flexibility to accommodate a wide variety of avionic configurations and missions, as well as redundancy to improve availability. Standardization and replication of the core elements can reduce the

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life cycle costs when major modifications/retrofits of an avionic configuration is considered, or when applied across the fleet by reducing unnecessary development proliferation and reducing maintenance costs.

A limited assessment of the potential effects of the DAIS concept on avionics system life cycle cost are assessed in this report by a cost comparison of a hypothetical application of a conceptual mid-1980's DAIS suite versus a conventional avionics suite used in a close-air-support (CAS) aircraft both with one major modification/retrofit.

The first volume of this two volume technical report describes the cost comparison and its results. This volume supplements the first by providing additional details of the comparison, appendices, model output reports of the Life Cycle Cost Impact Modeling System (LCCIM), and data used in the comparison.

PREFACE

This supplement contains the appendices to a technical report providing the results of a preliminary investigation of the potential impact of the Digital Avionics Information System (DAIS) concept on system support personnel requirements and life cycle cost (LCC). That report is one of a series of technical reports, data banks, and computer programs which were produced under Contract F33615-75-C-5218, "DAIS Life Cycle Costing Study." Products of that study, in conjunction with present Air Force capabilities, provide analytic techniques capable of assessing the LCC impact of alternative avionics designs. The report presents the results of the initial application of those analytic techniques to assess potential DAIS impacts on LCC. This supplement provides the computer printouts, as well as the details of all of the cost elements and their computations used in the study.

The conduct of the study was directed by the Logistics and Technical Training Division, Air Force Human Resources Laboratory, Wright-Patterson Air Force Base, Ohio, and is documented under Work Unit 20510001. It was performed under Air Force Avionics Laboratory Program Element 62402F, "Impact of DAIS on Life Cycle Costs," and is jointly sponsored by the Air Force Human Resources Laboratory, the Air Force Avionics Laboratory, and the Air Force Logistics Command.

Contract funds were provided by the Air Force Avionics Laboratory. The DAIS Program Manager is Mr. Terrance A. Brim. Mr. H. Anthony Baran is the Air Force Human Resources Laboratory Project Scientist. The Air Force Logistics Command Project Officer is Captain Ronald Hann. The contractor Program Manager is Mr. John Goclowski.

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I.

NON-DAIS HISTORICAL RELIABILITY, MAINTAINABILITY, COST MODEL BATCH OUTPUT REPORTS

REPORT NO. 1 -- SYSTEM COST

PROG = 15 YEARS BASE YEAR - 1976

NON-DAIS COST DATA BANK (HISTORICAL)

		COST	% LCC
RC	- RECURRING		
	ES - SUPPORT	121,462,221	47.524%
	EO - OPERATION	0	0. %
NRC	- NON-RECURRING		
	END - R & D	5,340,000	2.089%
	EST - SYSTEM INVESTMENT	67,718,725	26.496%
	EOI - SUPPORT INVESTMENT	61,060,115	23.891%
EOP	- DISPOSAL	0	0. %
LCC	- TOTALS	255,581,062	100.000%

REPORT NO. 2 -- EXPANDED NON-RECURRING COSTS (XNC)

NON-DAIS COST DATA BANK (HISTORICAL)

		COST	% LCC
RC - RECURRING		121,462,221	47.524%
PIUP = 15 YEARS			
DSP - DISPOSAL		0	0. %
NRC - NON-RECURRING			
CRD - R & D		5,340,000	2.089%
CSI - SYSTEM INVESTMENT			
CPP - PROCUREMENT		67,718,725	26.496%
CPM - PROJECT MANAGEMENT		0	0. %
CSI - SUPPORT INVESTMENT			
CPTI - MAINTENANCE TRAINING		0	0. %
CSPI - SPARES		16,742,071	6.551%
CSRI - SE, DEPOT		22,176,000	8.677%
CSEI - SE, FIELD		15,051,232	5.889%
CSWI - SOFTWARE ACQUISITION		5,316,597	2.080%
CTGI - MAINTENANCE MANUALS		1,769,196	0.692%
CIMI - INVENTORY MANAGEMENT		5,020	0.002%
CFAI - FACILITIES		0	0. %
LCC - TOTALS		255,581,062	100.000%

REPORT NO. 5 -- EXPANDED RECURRING COSTS (RC)

NON-DAIS COST DATA BANK (HISTORICAL)

	COST	% LCC
NRC - NON-RECURRING	134,118,840	52.476%
DDP - DISPOSAL	0	0. %
RC - RECURRING (FOR PIUP = 15 YEARS)		
CO - OPERATION		
CFL - FUEL	0	0. %
COP - PERSONNEL		
CAC - AIRCREW	0	0. %
COO - OTHER OPERATIONS	0	0. %
CS - SUPPORT		
COM - ON-EQUIPMENT MAINTENANCE	26,681,736	10.440%
CSM - INTERMEDIATE MAINTENANCE	22,855,908	8.943%
CPT - TRAINING	13,152,502	5.146%
CSP - SPARES	11,824,026	4.626%
CDM - DEPOT MAINTENANCE	33,767,100	13.212%
CSE - SUPPORT EQUIPMENT	6,752,616	2.642%
CSW - SOFTWARE	4,209,000	1.647%
CJG - MAINTENANCE MANUALS	1,990,343	0.779%
CIM - INVENTORY MANAGEMENT	228,986	0.090%
LCC - TOTALS	255,581,062	100.000%

REPORT NO. 4 -- COSTS BY SUBSYSTEM CONTRIBUTIONS

RECURRING COST ELEMENTS (PER YEAR)

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ID	COM	CSM	CPT	CSP	CDR	CJG	CIM	TOTAL
	% RCY	% RCY	% RCY	% RCY	% RCY	% RCY	% RCY	% RCY
AA110	155,384.0	83,714.2	59,848.9	69,478.8	57,127.8	5,712.8	462.6	429,729.1
	1.894	1.034	0.739	0.859	0.706	0.071	0.006	5.307
AA120	195,598.0	136,669.6	83,729.7	144,258.6	72,218.3	3,102.2	154.2	633,730.6
	2.391	1.688	1.034	1.782	0.892	0.038	0.002	7.826
AA210	22,021.0	2,306.3	6,279.5	2,501.6	13,523.1	2,487.3	308.4	49,427.3
	0.272	0.028	0.078	0.031	0.167	0.031	0.004	0.610
AA220	2,327.2	2,448.2	625.9	626.1	0.	5,947.0	154.2	12,128.5
	0.029	0.030	0.008	0.008	0.	0.073	0.002	0.150
AC110	47,562.9	66,546.2	33,307.3	28,539.0	56,061.4	7,281.6	925.2	240,223.8
	0.587	0.822	0.411	0.352	0.692	0.090	0.011	2.967
AC210	35,315.0	41,576.2	22,615.7	4,532.0	9,175.7	3,863.7	462.6	117,538.8
	0.436	0.513	0.279	0.056	0.113	0.048	0.006	1.452
AC310	40,159.0	22,467.2	19,032.8	2,981.4	60,333.0	3,106.6	616.8	148,696.7
	0.496	0.277	0.235	0.037	0.745	0.038	0.008	1.836
AC320	56,822.2	83,514.8	39,235.1	10,686.6	14,358.6	4,056.3	771.0	209,444.7
	0.702	1.031	0.485	0.132	0.177	0.050	0.010	2.587
AC330	10,068.1	3,324.4	3,985.6	359.5	898.0	4,056.3	771.0	23,463.0
	0.124	0.041	0.049	0.004	0.011	0.050	0.010	0.290
AC410	16,822.7	8,129.9	7,508.2	180.4	1,259.4	3,437.0	462.6	37,800.3
	0.208	0.100	0.093	0.002	0.016	0.042	0.006	0.467
AC510	25,954.9	20,538.0	12,966.8	1,593.0	7,772.7	4,813.4	616.8	74,255.5
	0.321	0.254	0.160	0.020	0.096	0.059	0.008	0.917
AC610	19,469.4	5,687.6	6,601.0	7,299.6	46,284.2	1,587.9	462.6	87,392.4
	0.240	0.070	0.082	0.090	0.572	0.020	0.006	1.079
AE110	60,533.0	7,562.3	7,329.9	3,782.2	48,902.6	3,960.0	616.8	132,686.7
	0.748	0.093	0.091	0.047	0.604	0.049	0.008	1.639
AE120	5,775.7	1,146.7	728.8	575.2	12,987.0	968.6	154.2	22,334.2
	0.071	0.014	0.009	0.007	0.160	0.012	0.002	0.276
AN120	73,218.3	72,371.2	36,339.7	123,724.9	750,177.8	1,679.8	154.2	1,057,666.0
	0.904	0.894	0.449	1.528	9.264	0.021	0.002	13.062
AM150	29,522.9	14,041.5	11,856.5	4,471.8	6,221.6	6,570.6	925.2	73,610.2
	0.365	0.173	0.146	0.055	0.077	0.081	0.011	0.909
AM140	7,221.1	3,956.7	2,486.3	6,093.4	12,831.5	826.4	154.2	33,569.5
	0.089	0.049	0.031	0.075	0.158	0.010	0.002	0.415
AR210	5,302.3	1,759.5	1,926.7	108.4	708.1	3,533.3	616.8	13,955.1
	0.065	0.022	0.024	0.001	0.009	0.044	0.008	0.172
AN110	46,209.7	11,957.2	6,596.6	4,956.6	72,311.5	4,294.8	925.2	147,251.6
	0.571	0.148	0.081	0.061	0.893	0.053	0.011	1.818
AN120	52,905.2	77,469.4	34,748.8	9,082.3	14,778.0	3,863.7	462.6	193,308.0
	0.653	0.957	0.429	0.112	0.183	0.048	0.006	2.387
AN150	18,800.3	10,133.4	7,129.0	1,698.7	1,185.1	3,248.8	616.8	42,812.0
	0.232	0.125	0.088	0.021	0.015	0.040	0.008	0.529
AN210	80,898.0	51,424.0	37,759.8	8,458.8	51,041.7	3,629.6	771.0	233,982.8
	0.999	0.635	0.466	0.104	0.630	0.045	0.010	2.890
AN220	13,987.2	9,780.2	6,406.9	7,236.7	22,058.1	1,635.9	308.4	61,411.4
	0.173	0.121	0.079	0.089	0.272	0.020	0.004	0.758

ID	COM		CSM		CPT		CSP		CDR		CJG		CIM		TOTAL	
		% RCY		% RCY		% RCY		% RCY		% RCY		% RCY		% RCY		% RCY
AN510	307,291.0	3.795	236,494.5	2.921	140,370.9	1.734	53,989.3	0.667	165,799.4	2.048	20,157.9	0.249	1,696.2	0.021	925,779.3	11.433
AN520	67,758.2	0.837	60,118.9	0.742	16,710.3	0.206	9,310.6	0.115	27,130.5	0.335	4,717.1	0.058	462.6	0.006	186,188.2	2.299
AN530	142,065.3	1.754	140,912.8	1.740	112,185.7	1.385	90,067.6	1.112	218,606.9	2.702	3,340.9	0.041	308.4	0.004	707,690.4	8.740
AN540	106,785.7	1.319	126,487.4	1.562	56,400.5	0.697	119,439.0	1.475	194,904.8	2.407	6,185.5	0.076	308.4	0.004	610,511.2	7.540
AN550	106,894.8	1.320	198,386.8	2.450	80,852.1	0.998	60,779.9	0.751	298,981.2	3.692	7,892.3	0.097	308.4	0.004	754,075.6	9.312
AN560	30,130.3	0.372	22,804.0	0.282	21,288.3	0.263	11,456.6	0.141	13,301.9	0.164	6,754.4	0.083	308.4	0.004	106,043.9	1.310
	1,778,786.4	21.967	1,525,727.3	18.817	876,833.5	10.828	788,268.4	9.735	2,251,140.0	27.800	132,689.6	1.639	15,265.8	0.189	7,366,706.9	90.975

OTHER RECURRING COSTS -- CSE.....	450,174.4	5.559
CSW.....	280,600.0	3.465
CPL.....	0.	0.
CAC.....	0.	0.
COO.....	0.	0.
TEST STATION/TEST DRAWER (CSM).....	0.	0.
TEST STATION/TEST DRAWER (CPT).....	0.	0.
CDR OVERHAUL.....	0.	0.
TOTAL RCY.....	8,097,481.2	100.000

NON-RECURRING COST ELEMENTS

ID	CSPI	% NRC	CJGI	% NRC	CPP	% NRC	CIMI	% NRC	TOTAL	% NRC
AA110	1,357,292	1.012	76,170	0.057	7,452,000	5.556	152	0.000	8,885,615	6.625
AA120	3,099,088	2.311	41,562	0.031	4,968,000	3.704	50	0.000	8,108,502	6.046
AA210	93,235	0.070	33,163	0.025	885,960	0.661	101	0.000	1,012,461	0.755
AA220	51,449	0.038	79,292	0.059	3,634,754	2.710	50	0.000	3,765,547	2.808
AC110	436,364	0.325	97,090	0.072	4,372,088	3.260	304	0.000	4,905,827	3.658
AC210	76,929	0.057	51,516	0.038	868,406	0.647	152	0.000	997,003	0.743
AC310	69,816	0.052	41,420	0.031	388,497	0.290	202	0.000	499,937	0.373
AC320	108,257	0.081	54,083	0.040	594,669	0.443	253	0.000	757,264	0.565
AC330	27,970	0.021	54,083	0.040	413,586	0.308	253	0.000	495,893	0.370
AC410	4,269	0.003	45,826	0.034	92,239	0.069	152	0.000	142,486	0.106
AC510	55,180	0.041	64,178	0.048	930,009	0.693	202	0.000	1,049,572	0.783
AC610	250,608	0.187	21,171	0.016	725,410	0.541	152	0.000	997,342	0.744
AE110	133,768	0.100	52,799	0.039	607,586	0.453	202	0.000	796,357	0.592
AE120	21,242	0.016	12,914	0.010	171,147	0.128	50	0.000	205,356	0.153
AM120	2,135,857	1.593	22,397	0.017	4,560,789	3.401	50	0.000	6,719,095	5.010
AM130	89,864	0.067	87,608	0.065	1,438,484	1.073	304	0.000	1,616,260	1.205
AM140	137,679	0.103	11,018	0.008	707,608	0.528	50	0.000	856,357	0.639
AM210	14,844	0.011	47,110	0.035	490,176	0.365	202	0.000	552,333	0.412
AN110	155,244	0.116	57,263	0.043	1,109,520	0.827	304	0.000	1,322,332	0.986
AN120	109,647	0.082	51,516	0.038	542,257	0.404	152	0.000	703,572	0.525
AN130	18,316	0.014	43,317	0.032	311,576	0.232	202	0.000	373,413	0.278
AN210	154,094	0.115	48,394	0.036	736,009	0.549	253	0.000	938,750	0.700
AN220	115,201	0.086	21,784	0.016	548,798	0.409	101	0.000	685,886	0.511
AN510	967,181	0.721	268,505	0.200	8,758,335	6.530	557	0.000	9,994,580	7.452

ID	CSPI		CJGI		CPP		CIMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC		% NRC
AN320	142,791	0.106	62,895	0.047	1,185,199	0.884	152	0.000	1,391,037	1.037
AN350	2,145,963	1.599	44,542	0.033	4,775,076	3.560	101	0.000	6,965,683	5.192
AN340	5,019,469	2.251	82,473	0.061	8,927,578	6.656	101	0.000	12,029,623	8.969
AN350	1,428,133	1.065	105,231	0.078	4,467,805	3.331	101	0.000	6,001,271	4.475
AN360	285,435	0.211	90,059	0.067	3,055,154	2.278	101	0.000	3,428,750	2.557
	16,701,178	12.453	1,769,194	1.319	67,718,725	50.492	5,020	0.004	86,194,120	64.267

OTHER NON-RECURRING COSTS -- CPII.....		0
		0.
CDRI.....		22,176,000
		16.535
CSEI.....		15,051,232
		11.222
CSWI.....		5,316,597
		3.964
CFAI.....		0
		0.
CRD.....		5,340,000
		3.982
CPM.....		0
		0.
SPNTS.....		40,892
		0.030
WRMC.....		0
		0.
TOTAL NRC.....		134,118,842
		100.000

REPORT NO. 5 -- COSTS BY LRU CONTRIBUTIONS

RECURRING COST ELEMENTS (PER YEAR)

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ID	COM	CSM	CPT	CSP	CDR	CEM	TOTAL
	% RCY	% RCY	% RCY	% RCY	% RCY	% RCY	% RCY
AA111	19,501.4	9,947.4	7,471.0	15,972.8	8,904.2	154.2	59,951.1
	0.249	0.125	0.092	0.173	0.110	0.002	0.740
AA112	57,620.0	27,186.4	21,939.9	7,667.2	9,735.5	154.2	124,303.2
	0.712	0.336	0.271	0.095	0.120	0.002	1.535
AA113	76,262.5	46,580.4	30,438.1	67,838.7	38,488.1	154.2	239,762.0
	0.942	0.575	0.376	0.591	0.475	0.002	2.961
AA121	195,598.0	136,069.6	85,729.7	144,258.6	72,218.3	154.2	630,628.4
	2.391	1.688	1.034	1.782	0.892	0.002	7.788
AA21A	7,340.3	1,132.8	2,228.1	67.7	1,214.1	154.2	12,137.3
	0.091	0.014	0.028	0.001	0.015	0.002	0.150
AA21B	14,680.7	1,173.5	4,051.4	2,433.9	12,309.0	154.2	34,802.7
	0.181	0.014	0.050	0.030	0.152	0.002	0.430
AA22A	2,327.2	2,448.2	625.9	626.1	0.	154.2	6,181.5
	0.029	0.030	0.008	0.008	0.	0.002	0.076
AC111	15,149.7	22,583.9	11,145.0	4,875.6	29,916.2	154.2	83,624.5
	0.187	0.276	0.138	0.060	0.369	0.002	1.033
AC112	15,705.3	24,512.0	11,477.6	7,237.9	16,153.0	154.2	75,238.0
	0.194	0.303	0.142	0.089	0.199	0.002	0.929
AC113	5,251.2	6,789.3	3,559.6	5,060.4	7,684.8	154.2	28,499.5
	0.065	0.084	0.044	0.062	0.095	0.002	0.352
AC114	5,469.3	7,979.4	4,001.2	8,528.4	1,021.6	154.2	27,154.1
	0.068	0.099	0.049	0.105	0.013	0.002	0.335
AC11A	3,403.7	2,700.0	1,752.0	2,174.2	1,285.9	154.2	11,471.9
	0.042	0.033	0.022	0.027	0.016	0.002	0.142
AC11B	2,583.7	2,181.7	1,371.9	662.6	0.	154.2	6,954.1
	0.032	0.027	0.017	0.008	0.	0.002	0.086
AC211	33,712.0	39,612.1	21,565.1	3,278.6	9,175.7	154.2	107,497.7
	0.416	0.489	0.266	0.040	0.113	0.002	1.328
AC212	616.1	575.0	281.9	1,033.2	0.	154.2	2,460.3
	0.008	0.005	0.003	0.013	0.	0.002	0.030
AC21A	987.0	1,587.1	768.7	220.1	0.	154.2	3,717.0
	0.012	0.020	0.009	0.003	0.	0.002	0.046
AC311	20,935.8	9,127.7	9,130.5	1,496.2	52,346.2	154.2	93,190.6
	0.259	0.113	0.113	0.018	0.646	0.002	1.151
AC312	2,318.0	712.2	875.8	307.8	2,581.1	154.2	6,949.1
	0.029	0.009	0.011	0.004	0.032	0.002	0.086
AC31A	15,664.9	12,445.2	8,644.2	976.2	3,867.9	154.2	41,752.7
	0.193	0.154	0.107	0.012	0.048	0.002	0.516
AC31B	1,240.2	182.0	382.3	201.3	1,537.8	154.2	3,697.8
	0.015	0.002	0.005	0.002	0.019	0.002	0.046
AC321	45,540.6	75,858.0	34,724.8	7,983.5	7,201.8	154.2	171,662.9
	0.562	0.937	0.429	0.099	0.089	0.002	2.117
AC322	453.6	148.6	129.7	57.4	134.0	154.2	1,077.5
	0.006	0.002	0.002	0.001	0.002	0.002	0.013
AC323	552.2	440.0	166.3	21.5	146.4	154.2	1,480.6
	0.007	0.005	0.002	0.000	0.002	0.002	0.018

ID	COM		CSM		CPI		CSP		CDM		CIM		TOTAL	
		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY
AC32A	5,554.8	0.066	5,175.9	0.064	2,903.4	0.036	1,984.1	0.025	174.4	0.002	154.2	0.002	15,766.9	0.194
AC32B	4,920.9	0.061	1,892.3	0.023	1,311.0	0.016	640.2	0.008	6,702.0	0.083	154.2	0.002	15,620.6	0.193
AC331	1,814.4	0.022	544.9	0.007	699.2	0.009	45.5	0.001	0.	0.	154.2	0.002	3,258.1	0.040
AC332	1,541.7	0.019	882.2	0.011	731.5	0.009	104.9	0.001	460.2	0.006	154.2	0.002	3,874.7	0.048
AC333	2,810.7	0.035	1,087.3	0.013	1,161.7	0.014	83.1	0.001	0.	0.	154.2	0.002	5,297.0	0.065
AC334	2,087.0	0.026	420.5	0.005	739.8	0.009	25.4	0.000	195.6	0.002	154.2	0.002	3,622.6	0.045
AC33A	1,814.4	0.022	389.6	0.005	653.4	0.008	100.6	0.001	242.2	0.003	154.2	0.002	3,354.4	0.041
AC411	9,577.8	0.118	4,684.1	0.058	4,300.6	0.053	122.1	0.002	534.9	0.007	154.2	0.002	19,373.7	0.239
AC412	5,380.4	0.066	2,760.8	0.034	2,457.7	0.030	44.3	0.001	0.	0.	154.2	0.002	10,797.5	0.133
AC413	1,864.5	0.023	685.1	0.008	749.9	0.009	14.0	0.000	724.5	0.009	154.2	0.002	4,192.1	0.052
AC511	17,835.9	0.220	14,820.9	0.183	9,120.3	0.113	1,222.5	0.015	6,433.0	0.079	154.2	0.002	49,586.8	0.612
AC51A	4,676.1	0.058	3,479.4	0.043	2,269.7	0.028	141.2	0.002	0.	0.	154.2	0.002	10,720.6	0.132
AC51B	369.0	0.005	180.2	0.002	150.9	0.002	208.4	0.003	1,339.6	0.017	154.2	0.002	2,402.4	0.030
AC51C	3,073.9	0.038	2,057.5	0.025	1,425.8	0.018	20.8	0.000	0.	0.	154.2	0.002	6,732.3	0.083
AC611	16,831.6	0.208	3,674.7	0.045	5,236.9	0.065	7,021.3	0.087	45,766.8	0.565	154.2	0.002	78,685.5	0.972
AC612	645.7	0.008	206.0	0.003	236.0	0.003	20.9	0.000	172.0	0.002	154.2	0.002	1,434.7	0.018
AC61A	1,992.0	0.025	1,807.0	0.022	1,128.2	0.014	257.5	0.003	345.4	0.004	154.2	0.002	5,684.2	0.070
AE111	13,163.4	0.163	2,103.6	0.026	1,597.7	0.020	931.0	0.011	5,044.4	0.062	154.2	0.002	22,994.2	0.284
AE112	1,141.2	0.014	118.5	0.001	135.8	0.002	27.9	0.000	1,396.3	0.017	154.2	0.002	2,974.0	0.037
AE113	20,745.7	0.256	2,257.5	0.028	2,501.5	0.031	2,598.0	0.032	31,794.8	0.393	154.2	0.002	60,051.7	0.742
AE114	25,482.6	0.315	3,082.7	0.038	3,094.9	0.038	225.3	0.003	10,667.2	0.132	154.2	0.002	42,706.9	0.527
AE121	5,773.7	0.071	1,146.7	0.014	726.8	0.009	575.2	0.007	12,987.0	0.160	154.2	0.002	21,365.6	0.264
AM121	73,218.3	0.904	72,571.2	0.894	36,339.7	0.449	123,724.9	1.528	750,177.8	9.264	154.2	0.002	1,055,986.2	13.041
AM13A	6,065.2	0.075	2,737.7	0.034	2,493.4	0.031	1,011.4	0.012	1,268.0	0.016	154.2	0.002	13,729.9	0.170
AM13B	8,525.4	0.105	2,343.6	0.029	2,537.5	0.031	621.6	0.008	0.	0.	154.2	0.002	14,182.3	0.175
AM13C	3,399.9	0.042	1,536.4	0.019	1,398.9	0.017	401.9	0.005	4,953.7	0.061	154.2	0.002	11,845.0	0.146

ID	COM		CSM		CPT		CSP		CDM		CIM		TOTAL	
		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY
AM150	5,599.9	0.062	2,579.5	0.029	1,658.9	0.020	965.7	0.012	0.		154.2	0.002	8,536.1	0.105
AM15E	951.1	0.011	550.5	0.006	361.2	0.004	8.5	0.000	0.		154.2	0.002	1,805.6	0.022
AM15F	7,201.3	0.089	4,694.0	0.058	3,406.6	0.042	1,484.7	0.018	0.		154.2	0.002	16,940.8	0.209
AM16A	7,221.1	0.089	3,956.7	0.049	2,486.3	0.031	6,095.4	0.075	12,831.5	0.158	154.2	0.002	32,743.2	0.404
AM211	959.4	0.012	555.9	0.006	359.5	0.004	57.1	0.001	0.		154.2	0.002	1,865.9	0.023
AM212	758.5	0.009	80.2	0.001	206.4	0.003	2.0	0.000	87.9	0.001	154.2	0.002	1,269.0	0.016
AM213	569.2	0.005	46.1	0.001	105.6	0.001	6.2	0.000	0.		154.2	0.002	681.4	0.008
AM214	3,255.4	0.040	1,275.3	0.016	1,257.5	0.016	43.1	0.001	620.2	0.008	154.2	0.002	6,605.5	0.082
AN111	3,222.8	0.040	483.1	0.006	407.7	0.005	43.2	0.001	3,428.4	0.042	154.2	0.002	7,739.4	0.096
AN11A	12,240.5	0.151	2,103.0	0.026	1,551.9	0.019	1,380.6	0.017	22,419.0	0.277	154.2	0.002	39,849.2	0.492
AN11B	12,052.3	0.149	3,586.2	0.044	1,937.6	0.024	1,893.2	0.023	32,320.2	0.399	154.2	0.002	51,943.8	0.641
AN11C	8,445.2	0.104	3,113.3	0.038	1,324.5	0.016	149.0	0.002	0.		154.2	0.002	13,186.3	0.163
AN11D	4,505.0	0.053	866.2	0.011	576.5	0.007	967.8	0.012	9,045.0	0.112	154.2	0.002	15,914.6	0.197
AN11E	5,963.8	0.073	1,805.4	0.022	798.4	0.010	522.8	0.006	5,098.9	0.063	154.2	0.002	14,323.6	0.177
AN121	50,616.7	0.625	76,610.2	0.946	34,015.3	0.420	8,936.9	0.110	10,236.5	0.126	154.2	0.002	180,567.8	2.230
AN122	1,271.0	0.016	355.8	0.004	353.1	0.004	90.0	0.001	4,543.5	0.056	154.2	0.002	6,767.7	0.084
AN12A	1,015.5	0.013	503.4	0.006	380.4	0.005	55.4	0.001	0.		154.2	0.002	2,108.9	0.026
AN151	9,704.8	0.120	5,534.2	0.068	3,756.4	0.046	928.1	0.011	260.8	0.003	154.2	0.002	20,318.6	0.251
AN152	197.3	0.002	28.4	0.000	49.8	0.001	15.1	0.000	762.1	0.009	154.2	0.002	1,206.8	0.015
AN15A	507.5	0.006	80.2	0.001	94.0	0.001	11.2	0.000	162.1	0.002	154.2	0.002	809.3	0.010
AN15B	8,590.7	0.106	4,490.5	0.055	3,248.8	0.040	744.3	0.009	0.		154.2	0.002	17,228.5	0.213
AN211	53,837.3	0.665	38,066.2	0.470	26,284.1	0.325	6,101.6	0.075	23,492.6	0.290	154.2	0.002	147,935.9	1.827
AN212	4,743.7	0.059	1,215.9	0.015	1,671.4	0.021	157.9	0.002	0.		154.2	0.002	7,943.1	0.098
AN213	5,495.8	0.068	1,110.6	0.014	1,297.8	0.016	1,153.4	0.014	13,403.3	0.166	154.2	0.002	20,613.1	0.255
AN21A	15,085.5	0.162	9,309.7	0.115	6,405.6	0.079	1,036.0	0.013	14,145.8	0.175	154.2	0.002	44,136.5	0.545
AN21B	5,757.8	0.071	1,721.7	0.021	2,100.9	0.026	10.0	0.000	0.		154.2	0.002	9,724.4	0.120

ID	COM		CSM		CPT		CSP		CDH		CIM		TOTAL	
		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY
AN221	15,206.0	0.163	9,599.5	0.116	6,097.7	0.075	7,168.1	0.089	19,081.7	0.236	154.2	0.002	55,107.2	0.681
AN222	781.2	0.010	580.7	0.005	509.1	0.004	68.6	0.001	2,976.4	0.037	154.2	0.002	4,670.3	0.058
AN511	50,495.6	0.630	42,389.2	0.523	24,179.0	0.299	20,873.6	0.258	41,899.4	0.517	154.2	0.002	180,491.0	2.229
AN512	28,508.6	0.352	26,639.1	0.329	14,374.4	0.178	3,794.4	0.047	4,764.1	0.059	154.2	0.002	78,234.8	0.966
AN513	51,607.2	0.637	40,691.0	0.505	23,793.2	0.294	5,123.5	0.063	13,062.9	0.161	154.2	0.002	134,432.0	1.660
AN514	6,162.8	0.076	912.1	0.011	1,660.0	0.020	1,451.6	0.018	8,005.0	0.099	154.2	0.002	18,345.6	0.227
AN515	2,352.2	0.029	972.4	0.012	834.6	0.010	46.2	0.001	0.	0.	154.2	0.002	4,359.6	0.054
AN51A	8,467.9	0.105	5,912.8	0.073	5,699.3	0.046	2,038.2	0.025	518.4	0.004	154.2	0.002	20,590.8	0.254
AN51B	85,926.4	1.056	62,304.9	0.769	37,790.4	0.467	11,117.6	0.137	25,733.0	0.318	154.2	0.002	221,026.6	2.730
AN51C	64,967.7	0.802	50,521.5	0.624	29,853.7	0.369	7,630.4	0.094	72,016.7	0.889	154.2	0.002	225,144.0	2.780
AN51D	846.8	0.010	175.8	0.002	235.6	0.003	0.	0.	0.	0.	154.2	0.002	1,410.5	0.017
AN51E	5,763.5	0.046	2,565.6	0.032	1,626.1	0.020	321.1	0.004	0.	0.	154.2	0.002	8,435.6	0.104
AN51F	5,692.3	0.070	3,407.2	0.042	2,326.7	0.029	1,592.5	0.020	0.	0.	154.2	0.002	13,172.9	0.163
AN521	66,799.2	0.825	59,919.1	0.740	16,581.1	0.205	9,273.8	0.115	26,250.0	0.324	154.2	0.002	178,977.4	2.210
AN522	635.3	0.008	135.9	0.002	86.7	0.001	15.0	0.000	713.1	0.009	154.2	0.002	1,738.2	0.021
AN52A	305.7	0.004	64.0	0.001	42.5	0.001	21.8	0.000	167.3	0.002	154.2	0.002	755.5	0.009
AN531	135,569.0	1.674	139,159.9	1.718	109,061.2	1.347	88,864.1	1.097	218,396.3	2.697	154.2	0.002	691,184.7	8.536
AN53A	6,499.2	0.080	1,772.9	0.022	3,124.6	0.039	1,203.5	0.015	410.6	0.005	154.2	0.002	13,165.0	0.163
AN541	95,913.9	1.184	117,009.2	1.445	51,597.5	0.637	114,398.0	1.413	192,386.8	2.376	154.2	0.002	571,459.6	7.057
AN54D	10,871.8	0.134	9,478.2	0.117	4,802.9	0.059	5,041.0	0.062	2,518.0	0.031	154.2	0.002	32,866.1	0.406
AN55A	67,705.5	0.836	123,072.4	1.520	51,228.6	0.633	39,251.0	0.485	260,433.0	3.216	154.2	0.002	541,844.7	6.692
AN55B	39,189.3	0.484	75,314.4	0.930	29,603.5	0.366	21,528.9	0.266	38,548.1	0.476	154.2	0.002	204,338.5	2.523
AN56A	20,831.2	0.257	14,904.2	0.184	14,317.7	0.177	10,299.5	0.127	11,631.9	0.144	154.2	0.002	72,138.6	0.891
AN56D	9,299.1	0.115	7,899.8	0.098	6,970.6	0.086	1,157.1	0.014	1,670.0	0.021	154.2	0.002	27,150.8	0.335
	1,778,782.4	21.967	1,523,727.5	18.817	876,833.5	10.828	784,268.4	9.755	2,251,140.0	27.800	15,265.8	0.189	7,234,017.4	89.337

OTHER RECURRING COSTS -- CSE.....	450,174.4	
		5.559
CSW.....	280,600.0	
		3.465
CSG.....	132,684.6	
		1.639
CPE.....	0.	
		0.
CAC.....	0.	
		0.
COO.....	0.	
		0.
TEST STATION/TEST DRAWER (CSM).....	0.	
		0.
TEST STATION/TEST DRAWER (CPT).....	0.	
		0.
COH OVERHAUL.....	0.	
		0.
TOTAL RCY.....	8,097,481.4	
		100.000

NON-RECURRING COST ELEMENTS

ID	CSPI		CPP		CIMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC
AA111	542,960	0.256	4,140,000	5.087	50	0.000	4,683,011	3.543
AA112	108,396	0.081	828,000	0.617	50	0.000	936,444	0.698
AA113	905,938	0.675	2,484,000	1.852	50	0.000	3,389,989	2.528
AA121	3,099,088	2.311	4,968,000	5.704	50	0.000	8,067,139	6.015
AA21A	2,088	0.002	57,960	0.043	50	0.000	60,099	0.045
AA21B	91,142	0.068	828,000	0.617	50	0.000	919,198	0.685
AA22A	51,449	0.038	3,634,754	2.710	50	0.000	3,686,254	2.748
AC111	69,926	0.052	875,208	0.651	50	0.000	945,186	0.703
AC112	100,246	0.075	1,305,106	0.972	50	0.000	1,405,403	1.046
AC113	91,974	0.069	415,524	0.310	50	0.000	507,549	0.378
AC114	114,869	0.086	454,986	0.339	50	0.000	569,926	0.425
AC11A	48,795	0.036	1,101,157	0.821	50	0.000	1,150,001	0.857
AC11B	10,513	0.008	224,305	0.167	50	0.000	234,869	0.175
AC211	50,246	0.037	399,344	0.298	50	0.000	449,642	0.335
AC212	21,889	0.016	414,000	0.309	50	0.000	435,940	0.325
AC21A	4,792	0.004	55,062	0.041	50	0.000	59,905	0.045
AC511	41,459	0.031	178,266	0.133	50	0.000	220,278	0.164
AC512	7,020	0.005	74,520	0.056	50	0.000	81,591	0.061
AC51A	9,800	0.007	44,629	0.033	50	0.000	54,480	0.041
AC51B	11,036	0.008	91,080	0.068	50	0.000	102,167	0.076
AC521	75,505	0.056	379,306	0.283	50	0.000	454,862	0.339
AC522	2,203	0.002	57,960	0.043	50	0.000	60,214	0.045
AC523	1,079	0.001	13,910	0.010	50	0.000	15,040	0.011
AC52A	15,870	0.012	89,541	0.067	50	0.000	105,262	0.078

ID	CAPI		CPP		CIMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC
AC52M	15,598		54,151		50		67,800	
		0.010		0.040		0.000		0.051
AC551	2,605		54,599		50		57,055	
		0.002		0.041		0.000		0.043
AC552	7,254		79,458		50		86,805	
		0.005		0.059		0.000		0.065
AC555	11,856		222,814		50		234,721	
		0.009		0.166		0.000		0.175
AC554	1,546		11,012		50		12,609	
		0.001		0.008		0.000		0.009
AC55A	4,900		45,571		50		50,822	
		0.004		0.034		0.000		0.038
AC411	2,779		50,176		50		53,007	
		0.002		0.037		0.000		0.040
AC412	823		25,502		50		26,376	
		0.001		0.019		0.000		0.020
AC415	865		16,560		50		17,276	
		0.000		0.012		0.000		0.013
AC511	21,750		219,751		50		241,532	
		0.016		0.164		0.000		0.180
AC51A	1,809		10,267		50		12,127	
		0.001		0.008		0.000		0.009
AC51B	50,947		662,400		50		693,397	
		0.023		0.494		0.000		0.517
AC51C	693		37,591		50		38,335	
		0.001		0.028		0.000		0.029
AC611	242,089		662,400		50		904,539	
		0.181		0.494		0.000		0.674
AC612	1,060		17,139		50		18,250	
		0.001		0.013		0.000		0.014
AC61A	7,458		45,871		50		53,380	
		0.006		0.034		0.000		0.040
AI111	30,330		174,708		50		205,089	
		0.023		0.130		0.000		0.153
AI112	4,960		66,405		50		71,396	
		0.004		0.050		0.000		0.053
AI113	90,727		340,225		50		431,003	
		0.068		0.254		0.000		0.321
AI114	7,770		26,247		50		34,068	
		0.006		0.020		0.000		0.025
AI121	21,242		171,147		50		192,441	
		0.016		0.128		0.000		0.143
AM121	2,135,857		4,560,789		50		6,696,698	
		1.595		3.401		0.000		4.995
AM15A	25,102		670,431		50		695,584	
		0.019		0.500		0.000		0.519
AM15B	12,019		372,600		50		384,670	
		0.009		0.278		0.000		0.287
AM15C	12,689		213,872		50		226,612	
		0.009		0.159		0.000		0.169
AM15D	20,868		100,436		50		121,355	
		0.016		0.075		0.000		0.090

ID	CSPI		CPP		CEMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC
AM15E	293		6,541		50		6,885	
		0.000		0.005		0.000		0.005
AM15F	18,910		74,602		50		93,563	
		0.014		0.056		0.000		0.070
AM16A	137,679		707,608		50		845,339	
		0.103		0.528		0.000		0.630
AM211	5,786		373,014		50		378,851	
		0.004		0.278		0.000		0.282
AM212	501		9,770		50		10,122	
		0.000		0.007		0.000		0.008
AM213	491		24,840		50		25,382	
		0.000		0.019		0.000		0.019
AM214	8,264		82,551		50		90,867	
		0.006		0.062		0.000		0.068
AN111	1,741		25,088		50		26,880	
		0.001		0.019		0.000		0.020
AN11A	49,299		270,858		50		320,189	
		0.037		0.202		0.000		0.239
AN11B	53,056		267,361		50		320,468	
		0.040		0.199		0.000		0.239
AN11C	2,591		66,157		50		68,799	
		0.002		0.049		0.000		0.051
AN11D	37,352		421,203		50		458,606	
		0.028		0.314		0.000		0.342
AN11E	11,203		58,870		50		70,124	
		0.008		0.044		0.000		0.052
AN121	104,568		472,374		50		576,993	
		0.078		0.352		0.000		0.430
AN122	3,701		57,960		50		61,712	
		0.003		0.043		0.000		0.046
AN12A	1,577		11,423		50		13,351	
		0.001		0.009		0.000		0.010
AN131	8,962		142,995		50		152,008	
		0.007		0.107		0.000		0.113
AN132	2,301		74,520		50		76,872	
		0.002		0.056		0.000		0.057
AN13A	900		15,518		50		16,269	
		0.001		0.011		0.000		0.012
AN13B	6,151		78,742		50		84,945	
		0.005		0.059		0.000		0.063
AN211	72,393		182,656		50		255,101	
		0.054		0.136		0.000		0.190
AN212	2,635		65,494		50		68,180	
		0.002		0.049		0.000		0.051
AN213	42,758		356,454		50		399,262	
		0.032		0.266		0.000		0.298
AN21A	35,781		103,003		50		138,837	
		0.027		0.077		0.000		0.104
AN21B	523		28,400		50		28,974	
		0.000		0.021		0.000		0.022
AN221	111,491		472,374		50		584,416	
		0.084		0.352		0.000		0.436

ID	CSPI		CPP		CIMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC
AN222	5,210		76,424		50		79,685	
		0.002		0.057		0.000		0.059
AN311	565,517		2,242,058		50		2,826,206	
		0.256		1.672		0.000		1.958
AN312	65,603		1,202,670		50		1,268,324	
		0.049		0.897		0.000		0.946
AN313	97,533		1,410,580		50		1,508,164	
		0.073		1.052		0.000		1.124
AN314	45,290		506,406		50		551,746	
		0.034		0.378		0.000		0.411
AN315	2,007		50,139		50		52,196	
		0.001		0.022		0.000		0.024
AN31A	37,959		883,144		50		921,154	
		0.028		0.658		0.000		0.687
AN31B	121,215		827,668		50		948,935	
		0.090		0.617		0.000		0.708
AN31C	173,473		1,215,172		50		1,388,697	
		0.129		0.906		0.000		1.035
AN31D	510		12,834		50		13,194	
		0.000		0.010		0.000		0.010
AN31E	19,334		213,541		50		232,926	
		0.014		0.159		0.000		0.174
AN31F	20,955		213,541		50		234,527	
		0.016		0.159		0.000		0.175
AN321	136,830		1,042,617		50		1,179,499	
		0.102		0.777		0.000		0.879
AN322	2,650		35,604		50		38,305	
		0.002		0.027		0.000		0.029
AN32A	3,309		106,977		50		110,336	
		0.002		0.080		0.000		0.082
AN331	2,119,373		4,457,703		50		6,577,127	
		1.580		3.324		0.000		4.904
AN33A	24,590		317,372		50		342,013	
		0.018		0.237		0.000		0.255
AN34A	2,955,185		8,018,436		50		10,973,671	
		2.203		5.979		0.000		8.182
AN34B	64,284		909,144		50		973,478	
		0.048		0.678		0.000		0.726
AN35A	887,219		2,544,526		50		3,431,796	
		0.662		1.897		0.000		2.559
AN35B	540,914		1,923,278		50		2,464,243	
		0.403		1.434		0.000		1.837
AN36A	251,059		2,185,837		50		2,436,947	
		0.187		1.630		0.000		1.817
AN36B	32,575		869,317		50		901,743	
		0.024		0.648		0.000		0.672
	16,701,178		61,718,727		5,020		84,424,922	
	12.453		50.492		0.004		62.948	

OTHER NON-RECURRING COSTS --	CPTI.....	0	
		0.	
	CDRI.....	22,176,000	
		16.535	
	CSEI.....	15,051,232	
		11.222	
	CSWI.....	5,510,597	
		4.108	
	CJGI.....	1,769,154	
		1.319	
	CFAI.....	0	
		0.	
	CRD.....	5,340,000	
		3.982	
	CPM.....	0	
		0.	
	SPRTS.....	40,892	
		0.030	
	WRMC.....	0	
		0.	
	TOTAL NRC.....	134,118,859	
		100.000	

REPORT NO. 6 -- RELIABILITY, MAINTAINABILITY, AND AVAILABILITY BY SUBSYSTEM

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

SUBSYS	MEHUMA	MTTR		MTTR/KFH		MMH/KFH		AVAIL	SUBSYSTEM LCC CONTRIBUTION	
		FLIGHT	SHOP	FLIGHT	SHOP	FLIGHT	SHOP		FLIGHT	SHOP
AA110	54.00	5.059	2.658	148.793	77.597	289.821	153.469	0.87048	3,873,231.8	12,937,867.4
AA120	30.60	5.803	3.859	189.624	126.120	565.359	223.610	0.84060	4,870,436.3	14,814,507.4
AA210	185.30	3.867	0.548	20.867	1.880	41.735	2.871	0.97956	564,849.6	1,342,639.8
AA220	1275.00	2.802	2.695	2.198	2.114	4.395	4.227	0.99781	49,778.6	3,912,000.0
AC110	40.80	1.894	2.231	46.414	54.673	88.417	109.346	0.95564	1,203,355.1	8,022,422.3
AC210	64.60	2.261	2.166	35.002	33.525	65.637	67.049	0.96618	888,402.5	2,364,956.7
AC510	71.40	2.707	1.331	37.908	18.640	75.815	36.825	0.96348	1,054,100.8	2,088,632.6
AC520	34.00	2.033	2.407	59.790	70.802	103.639	138.584	0.94358	1,360,717.0	3,397,995.4
AC550	243.10	2.305	0.602	9.483	2.477	18.965	4.954	0.99061	279,179.8	655,102.9
AC610	146.20	2.317	1.006	15.845	6.881	31.691	13.762	0.98440	444,524.6	427,213.9
AC510	81.60	1.990	1.195	24.387	14.644	48.775	29.288	0.97619	648,444.4	1,781,971.0
AC610	81.60	1.484	0.360	18.186	4.410	56.372	6.079	0.98214	500,363.6	1,952,935.7
AI110	54.40	3.116	0.574	57.255	6.884	114.471	8.418	0.94586	1,273,398.6	1,790,668.1
AI120	680.00	5.719	0.949	5.469	1.396	10.938	1.396	0.99456	124,847.4	443,212.5
AA120	56.10	3.969	3.890	70.749	69.341	138.147	120.707	0.93393	1,839,296.4	21,645,750.0
AM150	66.30	1.856	0.814	27.700	12.281	55.399	21.876	0.97305	761,586.2	2,217,325.3
AM140	408.00	2.782	1.734	6.819	4.249	13.637	4.249	0.99323	188,100.4	1,226,817.2
AM210	1150.90	5.800	1.760	5.040	1.529	10.079	2.851	0.99499	152,546.6	654,904.0
AN110	74.80	3.270	0.813	43.716	10.869	87.431	14.488	0.95812	985,086.2	2,790,140.0
AN120	39.10	2.119	2.403	54.188	61.456	97.321	120.670	0.94860	1,237,397.9	3,086,281.9
AN150	105.40	1.860	0.607	17.643	5.759	35.287	11.350	0.98266	453,518.9	720,101.0
AN210	35.70	2.726	1.249	76.370	34.982	152.739	69.964	0.92905	2,034,929.7	3,209,797.6
AN220	108.80	1.420	0.614	13.051	5.645	26.103	11.291	0.98712	342,666.6	1,397,747.4
AN510	17.00	5.335	3.331	313.798	195.942	573.478	391.095	0.76115	7,607,403.7	19,726,997.8
AN520	64.60	4.149	2.908	64.227	45.015	128.454	89.836	0.93965	1,426,116.1	3,351,812.2
AN530	27.20	5.885	3.391	142.831	124.671	265.331	249.342	0.87502	3,912,292.4	15,747,157.5
AN540	25.50	3.026	2.755	118.668	107.979	193.279	215.957	0.89392	2,466,455.5	20,122,632.0
AN550	23.80	2.468	3.995	103.697	167.847	200.672	326.400	0.90605	2,648,787.6	16,635,228.0
AN560	95.20	2.708	1.761	28.441	18.493	56.883	36.987	0.97235	855,687.3	4,557,520.3

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (ELR N)	DIRECT MMH/FH FLIGHTLINE (FMMH N,M)	TOTAL LABOR FLIGHTLINE (MHRF N,M)	DIRECT MMH/FH SHOP (SMMH N,M)	TOTAL LABOR SHOP (MHRS N,M)	TOTAL LABOR	TOTAL COST
52251		7.026771						
	AA110		0.13515	5838.502	0.05587	2413.698	82.2.000	81,338.1
	AA120		0.16920	7309.412	0.09749	4211.576	11520.988	113,559.7
	AA210		0.01979	854.814	0.00099	42.807	897.622	8,847.7
	AM120		0.06383	2757.577	0.05137	2218.994	4976.571	49,052.9
	AN310		0.24792	10709.941	0.19515	8430.589	19140.530	188,663.8
	AN340		0.06677	2884.354	0.10798	4664.678	7549.032	74,409.1
	AN350		0.08978	3878.561	0.15855	6849.466	10728.028	105,743.7
	TOTAL		0.79243	34232.962	0.66740	28831.809	63064.771	621,615.0
52251		11.521771						
	AA110		0.14291	6173.737	0.07760	3352.182	9525.919	136,715.8
	AA120		0.18309	7909.412	0.12612	5448.367	13357.779	191,707.6
	AA210		0.01979	854.814	0.00188	81.230	936.044	13,433.9
	AM120		0.06718	2902.347	0.06934	2995.539	5897.886	84,645.1
	AN110		0.	0.	0.00199	85.937	85.937	1,233.4
	AN310		0.30203	13047.823	0.19594	8464.714	21512.537	308,743.0
	AN340		0.06677	2884.354	0.10798	4664.678	7549.032	108,342.0
	AN350		0.09408	4064.430	0.16785	7250.992	11315.423	162,396.4
	TOTAL		0.87585	37836.918	0.74870	32343.639	70180.558	1,007,215.5

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR N)	DIRECT MMH/FH FLIGHTLINE (FMMH N/M)	TOTAL LABOR FLIGHTLINE (MURF N/M)	DIRECT MMH/FH SHOP (SMMH N/M)	TOTAL LABOR SHOP (MURS N/M)	TOTAL LABOR	TOTAL COST
52551		7.026771						
	AE110		0.05356	2313.741	0.00047	20.141	2333.882	23004.54
	AE120		0.00518	223.560	0.	0.	223.560	2203.58
	AN110		0.04104	1773.008	0.00333	143.756	1916.764	18893.10
	AN130		0.00427	184.440	0.	0.	184.440	1817.99
	AN320		0.06113	2640.857	0.04482	1936.278	4577.135	45115.77
	TOTAL		0.16518	7135.607	0.04862	2100.174	9235.781	91034.98
52571		11.521771						
	AE110		0.05356	2313.741	0.00688	297.371	2611.113	37,474.1
	AE120		0.00518	223.560	0.00140	60.289	283.849	4,073.7
	AN110		0.04104	1773.008	0.00888	383.586	2156.594	30,950.9
	AN130		0.00427	184.440	0.	0.	184.440	2,647.0
	AN320		0.06113	2640.857	0.04501	1944.648	4585.505	65,810.1
	TOTAL		0.16518	7135.607	0.06217	2685.895	9821.502	140,955.9

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR N)	DIRECT MMH/FH FLIGHTLINE (FMMH N,M)	TOTAL LABOR FLIGHTLINE (MURF N,M)	DIRECT MMH/FH SHOP (SMMH N,M)	TOTAL LABOR SHOP (MURS N,M)	TOTAL LABOR	TOTAL COST
5265A		7.026771						
	AA110		0.	0.	0.01130	487.976	487.976	4809.87
	AA120		0.	0.	0.01622	700.715	700.715	6906.79
	AC110		0.	0.	0.00896	387.002	387.002	3814.59
	AC210		0.	0.	0.00623	269.075	269.075	2652.21
	AC320		0.	0.	0.00912	394.124	394.124	3884.79
	AC330		0.	0.	0.00059	25.535	25.535	251.70
	AC510		0.	0.	0.00499	215.746	215.746	2126.56
	AC610		0.	0.	0.00196	84.484	84.484	832.73
	AI110		0.	0.	0.00042	17.940	17.940	176.83
	AM120		0.	0.	0.00718	310.131	310.131	3056.89
	AM210		0.	0.	0.00024	10.271	10.271	101.24
	AN120		0.	0.	0.01353	584.616	584.616	5762.43
	AN130		0.	0.	0.00214	92.499	92.499	911.74
	AN220		0.	0.	0.00371	160.124	160.124	1578.30
	TOTAL		0.	0.	0.08658	3740.239	3740.239	36866.67
5265A		11.521771						
	AA110		0.	0.	0.01130	487.976	487.976	7003.32
	AA120		0.	0.	0.01622	700.715	700.715	10056.51
	AC110		0.	0.	0.00896	387.002	387.002	5554.17
	AC210		0.	0.	0.00623	269.075	269.075	3861.70
	AC320		0.	0.	0.00912	394.124	394.124	5656.37
	AC330		0.	0.	0.00059	25.535	25.535	366.48
	AC510		0.	0.	0.00499	215.746	215.746	3096.34
	AC610		0.	0.	0.00196	84.484	84.484	1212.49
	AI110		0.	0.	0.00042	17.940	17.940	257.48
	AM120		0.	0.	0.00718	310.131	310.131	4450.93
	AM210		0.	0.	0.00024	10.271	10.271	147.40
	AN120		0.	0.	0.01353	584.616	584.616	8390.28
	AN130		0.	0.	0.00214	92.499	92.499	1327.52
	AN220		0.	0.	0.00371	160.124	160.124	2298.06
	TOTAL		0.	0.	0.08658	3740.239	3740.239	53679.05

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-BASE COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES (NU) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR N)	DIRECT MMH/FH FLIGHTLINE (FMMH N,M)	TOTAL LABOR FLIGHTLINE (MURF N,M)	DIRECT MMH/FH SHOP (SMMH N,M)	TOTAL LABOR SHOP (MUNS N,M)	TOTAL LABOR	TOTAL COST
52650		7.026771						
	AA210		0.	0.	0.00069	29.684	29.684	292.59
	AA220		0.	0.	0.00023	9.818	9.818	96.77
	AC510		0.	0.	0.00303	130.818	130.818	1289.44
	AC520		0.	0.	0.00116	50.166	50.166	494.48
	AC550		0.	0.	0.00011	4.776	4.776	47.07
	AC610		0.	0.	0.00089	38.567	38.567	380.14
	AE110		0.	0.	0.00019	8.169	8.169	80.52
	AE120		0.	0.	0.00191	82.578	82.578	813.95
	AM130		0.	0.	0.00027	11.627	11.627	114.61
	AM140		0.	0.	0.00224	96.728	96.728	953.42
	AN110		0.	0.	0.00126	54.625	54.625	538.62
	AN150		0.	0.	0.00346	149.565	149.565	1474.23
	AN210		0.	0.	0.00186	80.514	80.514	793.61
	AN310		0.	0.	0.01419	612.991	612.991	6042.12
	AN320		0.	0.	0.03051	1318.231	1318.231	12993.51
	AN330		0.	0.	0.01255	542.136	542.136	5343.71
	AN340		0.	0.	0.01007	435.002	435.002	4287.71
	AN350		0.	0.	0.01297	560.228	560.228	5522.04
	AN360		0.	0.	0.02563	1107.403	1107.403	10915.42
	TOTAL		0.	0.	0.00351	143.063	143.063	1410.14
					0.12654	5466.688	5466.688	53883.90

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M/M)	TOTAL LABOR FLIGHTLINE (MUFF M/M)	DIRECT MMH/FH SHOP (SMMH M/M)	TOTAL LABOR SHOP (MUHS M/M)	TOTAL LABOR	TOTAL COST
5265d		11.521771						
	AA210		0.	0.	0.00069	29.684	29.684	426.02
	AA220		0.	0.	0.00023	9.818	9.818	140.90
	AC310		0.	0.	0.00303	130.818	130.818	1877.46
	AC320		0.	0.	0.00116	50.166	50.166	719.98
	AC330		0.	0.	0.00011	4.776	4.776	68.54
	AC410		0.	0.	0.00089	38.567	38.567	553.50
	AC610		0.	0.	0.00019	8.169	8.169	117.24
	AE110		0.	0.	0.00191	82.578	82.578	1185.14
	AE120		0.	0.	0.00027	11.627	11.627	166.87
	AM130		0.	0.	0.00224	96.728	96.728	1388.21
	AM140		0.	0.	0.00126	54.625	54.625	783.96
	AN110		0.	0.	0.00346	149.565	149.565	2146.52
	AN130		0.	0.	0.00186	80.514	80.514	1155.52
	AN210		0.	0.	0.01419	612.991	612.991	8797.51
	AN310		0.	0.	0.03051	1318.231	1318.231	18918.96
	AN320		0.	0.	0.01255	542.136	542.136	7780.61
	AN330		0.	0.	0.01007	435.002	435.002	6243.05
	AN340		0.	0.	0.01297	560.228	560.228	8040.27
	AN350		0.	0.	0.02563	1107.403	1107.403	15893.20
	AN360		0.	0.	0.00331	143.063	143.063	2053.21
	TOTAL		0.	0.	0.12654	5466.688	5466.688	78456.66

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC / SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH N.M)	TOTAL LABOR FLIGHTLINE (MUHF N.M)	DIRECT MMH/FH SHOP (SMMH N.M)	TOTAL LABOR SHOP (MUHS N.M)	TOTAL LABOR	TOTAL COST
52650	7.026771						
AC110		0.05710	1602.741	0.03583	1461.292	3064.034	30,201.5
AC210		0.02756	1189.699	0.03352	1448.260	2637.959	26,001.8
AC310		0.03511	1516.598	0.01818	785.578	2302.176	22,692.0
AC320		0.03797	1640.152	0.06778	2928.184	4568.336	45,029.0
AC330		0.00866	374.104	0.00248	107.013	481.117	4,742.3
AC410		0.01448	625.625	0.00632	273.225	898.650	8,857.8
AC610		0.01573	679.744	0.00167	72.085	751.828	7,410.6
TOTAL		0.17658	7628.462	0.16379	7075.638	14704.099	144,934.9
52650	11.521771						
AC110		0.04151	1793.329	0.03583	1461.292	3254.622	46,709.6
AC210		0.03191	1378.334	0.03352	1448.260	2826.595	40,566.6
AC310		0.03511	1516.598	0.01864	805.269	2321.867	33,322.9
AC320		0.05391	2328.810	0.07080	3058.629	5387.440	77,319.3
AC330		0.00866	374.104	0.00248	107.013	481.117	6,904.9
AC410		0.01448	625.625	0.00632	273.225	898.650	12,897.2
AC610		0.01573	679.744	0.00441	190.509	870.252	12,489.7
TOTAL		0.20130	8696.344	0.17000	7344.198	16040.543	230,210.2

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AESC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE = NON-BASIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES ENDT = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AESC	SUBSYS	LOADED LABOR RATE ($LR M)	DIRECT MMH/FH FLIGHTLINE (FMMH M/M)	TOTAL LABOR FLIGHTLINE (MHRS M/M)	DIRECT MMH/FH SHOP (SMMH M/M)	TOTAL LABOR SHOP (MHRS M/M)	TOTAL LABOR	TOTAL COST
S2551		7.026771						
	AC110		0.	0.	0.02085	900.580	900.580	8,876.8
	AC410		0.	0.	0.00056	24.038	24.038	236.9
	AC510		0.02196	967.667	0.01464	632.631	1580.278	15,576.4
	AN120		0.03802	1642.373	0.05921	2558.061	4200.434	41,402.7
	AN130		0.01148	495.775	0.00562	242.982	738.757	7,281.8
	AN210		0.07077	3057.156	0.03498	1511.219	4568.376	45,029.4
	AN220		0.01121	484.412	0.00565	243.876	728.287	7,178.6
	TOTAL		0.15541	6627.364	0.14151	6113.586	12740.750	125,582.7
S2551		11.521771						
	AC110		0.	0.	0.02085	900.580	900.580	12,924.9
	AC410		0.	0.	0.00056	24.038	24.038	345.0
	AC510		0.02196	967.667	0.01464	632.631	1580.278	22,679.8
	AN120		0.04907	2119.949	0.06146	2654.899	4774.847	68,527.5
	AN130		0.01148	495.775	0.00573	247.355	743.130	10,665.2
	AN210		0.07077	3057.156	0.03498	1511.219	4568.376	65,564.3
	AN220		0.01121	484.412	0.00565	243.876	728.287	10,452.2
	TOTAL		0.16447	7104.939	0.14386	6214.597	13319.537	191,158.9

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AFSC'S AND SUBSYSTEMS SUPPORTED

UNIFIED FILE - NON-BASE COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M-M)	TOTAL LABOR FLIGHTLINE (MHBF M-M)	DIRECT MMH/FH SHOP (SMMH M-M)	TOTAL LABOR SHOP (MHRS M-M)	TOTAL LABOR	TOTAL COST
52655		7.026771						
	AM130		0.02468	1066.304	0.00960	414.505	1480.809	14595.99
	AM140		0.00633	273.588	0.	0.	273.588	2694.73
	TOTAL		0.03101	1339.892	0.00960	414.505	1754.197	17290.72
52655		11.521771						
	AM130		0.02468	1066.304	0.01228	530.539	1596.843	22917.52
	AM140		0.00633	273.588	0.00425	183.552	456.941	6557.91
	TOTAL		0.03101	1339.892	0.01653	714.091	2053.783	29475.43
52654		7.026771						
	AM130		0.11515	4974.353	0.12467	5385.785	10360.138	102,117.5
	AM140		0.02634	1137.907	0.01849	798.917	1936.824	19,090.8
	TOTAL		0.14149	6112.260	0.14316	6184.702	12296.962	121,208.3
52654		11.521771						
	AM130		0.13548	5852.647	0.12467	5385.785	11238.432	161,291.4
	AM140		0.02634	1137.907	0.01849	798.917	1936.824	27,796.9
	TOTAL		0.16182	6990.554	0.14316	6184.702	13175.256	189,088.5

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-OAIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M.H)	TOTAL LABOR FLIGHTLINE (MUFF M.H)	DIRECT MMH/FH SHOP (SMMH M.H)	TOTAL LABOR SHOP (MUFS M.H)	TOTAL LABOR	TOTAL COST
60651		7.026771						
	AM210		0.00487	210.201	0.00152	57.109	267.309	2634.806
	TOTAL		0.00487	210.201	0.00152	57.109	267.309	2634.806
60651		11.521771						
	AM210		0.00487	210.201	0.00155	66.054	276.256	3964.740
	TOTAL		0.00487	210.201	0.00155	66.054	276.256	3964.740

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-BASE COST DATA WORK (HISTORICAL)

ANNUAL BASE FLYING HOURS (BUFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE ($/MH)	DIRECT MMH/FH FLIGHTLINE ($MMH H/M)	TOTAL LABOR FLIGHTLINE ($HURF H/M)	DIRECT MMH/FH SHOP ($MMH H/M)	TOTAL LABOR SHOP ($HURS H/M)	TOTAL LABOR	TOTAL COST
62552		11.521771						
	AN330		0.	0.	0.00029	12.613	12.613	181.0242
	TOTAL		0.	0.	0.00029	12.613	12.613	181.0242
62553		11.521771						
	AA110		0.00588	254.118	0.	0.	254.118	3647.04
	AA120		0.00654	282.353	0.	0.	282.353	4052.26
	AA210		0.00108	46.627	0.	0.	46.627	669.18
	AA220		0.00016	6.776	0.	0.	6.776	97.25
	AC110		0.00490	211.765	0.	0.	211.765	3039.20
	AC210		0.00310	133.746	0.	0.	133.746	1919.49
	AC310		0.00280	121.008	0.	0.	121.008	1736.68
	AC320		0.00588	254.118	0.	0.	254.118	3647.04
	AC330		0.00082	35.541	0.	0.	35.541	510.08
	AC410		0.00137	59.097	0.	0.	59.097	848.15
	AC510		0.00245	105.882	0.	0.	105.882	1519.60
	AC610		0.00245	105.882	0.	0.	105.882	1519.60
	AE330		0.00368	158.824	0.	0.	158.824	2279.40
	AE370		0.00029	12.706	0.	0.	12.706	182.35
	AM120		0.00357	154.011	0.	0.	154.011	2210.33
	AM130		0.00302	130.317	0.	0.	130.317	1870.28
	AM140		0.00049	21.176	0.	0.	21.176	303.92
	AM210		0.00017	7.507	0.	0.	7.507	107.74
	AN110		0.00267	115.508	0.	0.	115.508	1657.74
	AN120		0.00512	220.972	0.	0.	220.972	3171.54
	AN130		0.00190	81.973	0.	0.	81.973	1176.66
	AN210		0.00560	242.017	0.	0.	242.017	3475.37
	AN220		0.00184	79.412	0.	0.	79.412	1139.70
	AN310		0.01176	508.235	0.	0.	508.235	7294.08
	AN320		0.00310	133.746	0.	0.	133.746	1919.49
	AN330		0.00735	317.647	0.	0.	317.647	4558.50
	AN340		0.00784	338.824	0.	0.	338.824	4862.72
	AN350		0.00840	363.025	0.	0.	363.025	5210.05
	AN360		0.00210	90.756	0.	0.	90.756	1302.51
	TOTAL		0.10633	4593.570	0.	0.	4593.570	65925.86

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-BASE COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 40.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M,M)	TOTAL LABOR FLIGHTLINE (MHR) M,M)	DIRECT MMH/FH SHOP (SMMH M,M)	TOTAL LABOR SHOP (MHRS M,M)	TOTAL LABOR	TOTAL COST
45151		11,521771						
	AN540		0.04406	1905.290	0.	0.	1905.290	27515.59
	TOTAL		0.04406	1905.290	0.	0.	1905.290	27515.59
45171		11,281771						
	AA110		0.00588	254.118	0.	0.	254.118	3586.05
	AA120		0.00654	282.353	0.	0.	282.353	3984.50
	AA210		0.00108	46.627	0.	0.	46.627	657.99
	AA220		0.00016	6.776	0.	0.	6.776	95.63
	AC110		0.00490	211.765	0.	0.	211.765	2988.37
	AC210		0.00310	133.746	0.	0.	133.746	1887.59
	AC310		0.00280	121.008	0.	0.	121.008	1707.64
	AC320		0.00588	254.118	0.	0.	254.118	3586.05
	AC330		0.00082	35.541	0.	0.	35.541	501.55
	AC410		0.00137	59.097	0.	0.	59.097	833.97
	AC510		0.00245	105.882	0.	0.	105.882	1494.19
	AC610		0.00245	105.882	0.	0.	105.882	1494.19
	AE110		0.00368	158.824	0.	0.	158.824	2241.28
	AE120		0.00029	12.706	0.	0.	12.706	179.30
	AN120		0.00357	154.011	0.	0.	154.011	2175.36
	AM130		0.00302	130.317	0.	0.	130.317	1839.00
	AN160		0.00049	21.176	0.	0.	21.176	298.84
	AM210		0.00017	7.507	0.	0.	7.507	105.94
	AN310		0.00267	115.508	0.	0.	115.508	1630.02
	AN320		0.00512	220.972	0.	0.	220.972	3118.30
	AN330		0.00190	81.973	0.	0.	81.973	1156.79
	AN210		0.00560	242.017	0.	0.	242.017	3415.29
	AN220		0.00184	79.412	0.	0.	79.412	1120.66
	AN510		0.01176	508.235	0.	0.	508.235	7172.10
	AN520		0.00310	133.746	0.	0.	133.746	1887.59
	AN530		0.00735	317.647	0.	0.	317.647	4482.56
	AN540		0.00784	338.824	0.	0.	338.824	4781.40
	AN550		0.00840	363.025	0.	0.	363.025	5122.93
	AN560		0.00210	90.756	0.	0.	90.756	1280.75
	TOTAL		0.10651	4595.570	0.	0.	4595.570	64823.40

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - NON-BASIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M-H)	TOTAL LABOR FLIGHTLINE (MUFH M-H)	DIRECT MMH/FH SHOP (SMMH M-H)	TOTAL LABOR SHOP (MUHS M-H)	TOTAL LABOR	TOTAL COST
46250		7.026771						
	AA220		0.00204	88.162	0.00211	91.312	179.473	1769.029
	TOTAL		0.00204	88.162	0.00211	91.312	179.473	1769.029
46250		11.521771						
	AA220		0.00204	88.162	0.00211	91.312	179.473	2575.762
	TOTAL		0.00204	88.162	0.00211	91.312	179.473	2575.762
53151		11.521771						
	AE110		0.	0.	0.00107	46.165	46.165	662.5469
	TOTAL		0.	0.	0.00107	46.165	46.165	662.5469

REPORT NO. 8A

SPARES REQUIREMENTS -- INVESTMENT

OUTPUT FILE - NON-BASE COST DATA BANK (HISTORICAL)

NUMBER OF BASES (NB) = 1
ANNUAL PEAK BASE FLYING HOURS (PBFH) = 51840.00
EXPECTED BACK ORDER (EBO) = 0.10

DEPOT REPAIR CYCLE TIME (DRCT) = 0.17 YRS.
BASE REPAIR CYCLE TIME (BRCT) = 0.13 YRS.

	SHOP SPARES		DEPOT SPARES		UNIT COST		COST OF LRU SPARES		COST OF SRU SPARES		
LRU	LRU (STKL)	SRU (STKS)	LRU (DPLL)	SRU (DPLS)	LRU (UC)	SRU (UCSRU)	SHOP (LRUSS)	DEPOT (LRUDS)	SHOP (SRUSS)	DEPOT (SRUDS)	TOTAL COST
AA111	1	1	4.90565	12.35259	50000	3571.43	50,000.0	245,272.6	3,571.4	44,116.4	342,960.4
AA112	1	1	5.79504	43.48823	10000	909.09	10,000.0	57,950.4	909.1	39,534.8	108,394.3
AA113	1	1	23.02766	42.19197	30000	4285.71	30,000.0	690,829.9	4,285.7	180,822.7	905,938.3
AA121	1	1	43.20864	140.41396	60000	3157.89	60,000.0	2,592,518.4	3,157.9	443,412.5	3,099,088.8
AA21A	1	3	1.13793	2.91944	700	100.00	700.0	796.6	300.0	291.9	2,088.5
AA21B	1	0	8.11474	0.	10000	2000.00	10,000.0	81,147.4	0.	0.	91,147.4
AA22A	1	3	0.	3.70883	43898	1125.59	43,898.0	0.	3,376.8	4,174.6	51,449.4
AC111	1	1	3.07120	27.15366	10546	958.73	10,546.0	32,388.9	958.7	26,033.0	69,926.6
AC112	1	1	2.77467	30.14014	15738	1311.50	15,738.0	43,667.8	1,311.5	39,528.8	100,246.1
AC113	1	7	4.51149	5.82469	5016	5016.00	5,016.0	22,629.6	35,112.0	29,216.7	91,974.3
AC114	1	9	0.69896	10.20910	5495	5495.00	5,495.0	3,840.8	49,455.0	56,099.0	114,889.8
AC11A	1	5	0.93195	5.42226	13299	2216.50	13,299.0	12,394.0	11,082.5	12,018.4	48,796.0
AC11B	1	5	0.	6.52366	2709	677.25	2,709.0	0.	3,386.3	4,418.1	10,513.4
AC211	1	1	6.03516	56.54580	4823	283.71	4,823.0	29,097.9	283.7	16,042.4	50,247.0
AC212	2	1	0.	1.37786	5000	5000.00	10,000.0	0.	5,000.0	6,889.3	21,889.3
AC21A	3	2	0.	2.20725	665	665.00	1,995.0	0.	1,330.0	1,467.8	4,792.8
AC311	1	1	17.16242	9.60999	2153	269.13	2,153.0	36,950.7	269.1	2,586.3	41,959.1
AC312	1	3	1.90021	1.90021	900	900.00	900.0	1,710.2	2,700.0	1,710.2	7,020.4
AC31A	1	1	5.13178	11.05028	539	539.00	539.0	2,766.0	539.0	5,956.1	9,800.1
AC31B	6	2	1.01667	1.01667	1100	1100.00	6,600.0	1,118.3	2,200.0	1,118.3	11,036.7
AC321	1	1	4.70212	106.80159	4581	458.10	4,581.0	21,540.4	458.1	48,925.8	75,505.3
AC322	2	1	0.12708	1.04209	700	350.00	1,400.0	89.0	350.0	364.7	2,203.7
AC323	4	1	0.71167	0.71167	168	168.00	672.0	119.6	168.0	119.6	1,079.1
AC32A	1	1	0.55917	12.14925	1079	1079.00	1,079.0	603.3	1,079.0	13,109.0	15,870.4
AC32B	1	8	6.58296	5.21045	654	654.00	654.0	4,305.3	5,232.0	3,407.6	13,598.9
AC331	3	1	0.	0.92425	657	328.50	1,971.0	0.	328.5	303.4	2,603.1
AC332	5	1	1.04867	0.51900	960	960.00	4,800.0	1,006.7	960.0	498.2	7,265.0
AC333	4	2	0.	2.05823	2691	269.10	10,764.0	0.	538.2	553.9	11,856.1
AC334	6	2	1.05933	1.06289	133	133.00	798.0	140.9	266.0	141.4	1,346.3
AC33A	5	2	0.79272	1.05222	554	554.00	2,770.0	439.2	1,108.0	582.9	4,900.1
AC411	1	8	1.55457	8.25752	606	75.75	606.0	942.1	606.0	625.5	2,779.6
AC412	1	5	0.	6.72069	308	44.00	308.0	0.	220.0	295.7	823.7
AC413	1	0	2.32889	0.	200	200.00	200.0	465.8	0.	0.	665.8
AC511	1	1	5.04101	24.26025	2654	221.17	2,654.0	13,378.8	221.2	5,476.1	21,730.1
AC51A	1	6	0.	7.59328	124	124.00	124.0	0.	744.0	941.6	1,809.6
AC51B	3	0	0.86841	0.	8000	8000.00	24,000.0	6,947.3	0.	0.	30,947.3
AC51C	1	2	0.	2.75349	454	50.44	454.0	0.	100.9	138.9	693.8
AC611	1	0	29.26114	0.	8000	8000.00	8,000.0	234,089.2	0.	0.	242,089.2
AC612	3	1	0.56129	0.56129	207	207.00	621.0	116.2	207.0	116.2	1,060.4
AC61A	7	3	0.45539	3.00766	554	554.00	3,878.0	252.3	1,662.0	1,666.2	7,458.5
AI111	1	4	11.37604	2.00158	2110	703.33	2,110.0	23,999.2	2,813.3	1,407.8	30,330.3

LRU	SHOP SPARES		DEPOT SPARES		UNIT COST		COST OF LRU SPARES		COST OF SRU SPARES		
	LRU (STKL)	SRU (STKS)	LRU (DPLL)	SRU (DPLS)	LRU (UC)	SRU (UCSRU)	SHOP (LRUSS)	DEPOT (LRUDS)	SHOP (SRUSS)	DEPOT (SRUDS)	TOTAL COST
A1112	5	0	1.15964	0.	802	401.00	4,010.0	930.0	0.	0.	4,940.0
A1113	1	0	21.08010	0.	4109	684.83	4,109.0	86,618.1	0.	0.	90,727.1
A1114	1	2	23.04990	0.77839	317	52.83	317.0	7,306.8	105.7	41.1	7,770.6
A1121	1	0	9.27715	0.	2067	516.75	2,067.0	19,175.9	0.	0.	21,242.9
AN121	1	1	28.35904	83.75236	55082	6120.22	55,082.0	1,562,072.6	6,120.2	512,583.1	2,135,857.9
AM15A	1	6	0.83419	6.66052	8097	809.70	8,097.0	6,754.5	4,858.2	5,393.0	25,102.7
AM15B	1	9	0.	11.05307	4500	375.00	4,500.0	0.	3,375.0	4,144.9	12,019.9
AM15C	1	4	2.59382	2.59382	2583	516.60	2,583.0	6,699.8	2,066.4	1,340.0	12,689.2
AM15D	8	4	0.	5.18764	1213	1213.00	9,704.0	0.	4,852.0	6,292.6	20,848.6
AM15E	2	1	0.	0.71689	79	79.00	158.0	0.	79.0	56.6	293.6
AM15F	1	9	0.	10.98790	901	901.00	901.0	0.	8,109.0	9,900.1	18,910.1
AM14A	1	1	12.52839	6.76605	8546	2848.67	8,546.0	107,067.6	2,848.7	19,217.3	137,679.5
AM211	1	1	0.	0.42274	4505	901.00	4,505.0	0.	901.0	380.9	5,786.9
AM212	2	0	0.55414	0.	118	59.00	236.0	65.4	0.	0.	301.4
AM213	1	1	0.	0.27707	300	150.00	300.0	0.	150.0	41.6	491.6
AM214	7	1	1.00166	0.44001	997	199.40	6,979.0	998.7	199.4	87.7	8,264.8
AN111	1	0	4.74833	0.	303	303.00	303.0	1,438.7	0.	0.	1,741.7
AN11A	1	0	14.07169	0.	3271	3271.00	3,271.0	46,028.5	0.	0.	49,299.5
AN11B	1	3	10.65197	1.77918	3229	3229.00	3,229.0	34,595.2	9,687.0	5,745.0	53,056.2
AN11C	1	6	0.	7.46331	799	133.17	799.0	0.	799.0	993.9	2,591.9
AN11D	1	0	6.34266	0.	5087	1271.75	5,087.0	32,265.1	0.	0.	37,352.1
AN11E	1	6	4.81765	3.93961	711	711.00	711.0	3,425.3	4,266.0	2,801.1	11,203.4
AN121	1	1	8.53122	148.56700	5705	335.59	5,705.0	48,670.6	335.6	49,857.3	104,568.5
AN122	1	0	4.28771	0.	700	700.00	700.0	3,001.4	0.	0.	3,701.4
AN12A	5	2	0.	2.56379	144	144.00	720.0	0.	288.0	369.2	1,377.2
AN151	1	1	0.54933	20.84181	1727	287.83	1,727.0	968.7	287.8	5,999.0	8,962.5
AN152	2	0	0.55753	0.	900	900.00	1,800.0	501.8	0.	0.	2,301.8
AN15A	3	1	0.58213	0.28696	185	185.00	555.0	107.7	185.0	53.1	900.8
AN15B	1	1	0.	20.87461	951	237.75	951.0	0.	237.8	4,962.9	6,151.7
AN211	1	1	16.50885	90.84707	2206	367.67	2,206.0	36,418.5	367.7	33,401.4	72,393.6
AN212	1	1	0.	1.33136	791	791.00	791.0	0.	791.0	1,053.1	2,635.1
AN213	1	0	8.93221	0.	4305	4305.00	4,305.0	38,453.1	0.	0.	42,758.1
AN21A	1	0	27.76488	0.	1244	1244.00	1,244.0	34,539.5	0.	0.	35,783.5
AN21B	1	1	0.	0.58096	343	114.33	343.0	0.	114.3	66.4	523.8
AN221	1	1	12.56545	29.32469	5705	1141.00	5,705.0	71,685.9	1,141.0	33,459.5	111,991.4
AN222	1	0	2.47814	0.	923	923.00	923.0	2,287.3	0.	0.	3,210.3
AN311	1	1	9.91257	34.71961	27085	2462.27	27,085.0	268,482.0	2,462.3	85,688.7	383,517.9
AN312	1	1	2.13502	19.72347	14525	968.33	14,525.0	31,011.1	968.3	19,098.9	65,603.3
AN313	1	1	3.35502	37.36277	17036	608.43	17,036.0	57,156.2	608.4	22,732.6	97,533.2
AN314	1	3	4.77837	1.88085	6116	2038.67	6,116.0	29,224.5	6,116.0	3,834.4	45,290.9
AN315	4	2	0.	2.54168	364	121.33	1,456.0	0.	242.7	308.4	2,007.1
AN31A	1	6	0.35584	7.21838	10666	1777.67	10,666.0	3,795.3	10,666.0	12,831.9	37,959.2
AN31B	1	1	4.52420	71.62468	9996	908.73	9,996.0	45,223.9	908.7	65,087.3	121,215.9
AN31C	1	1	9.15006	49.10535	14676	489.20	14,676.0	134,286.4	489.2	24,022.3	173,473.9
AN31D	2	0	0.	0.	155	155.00	310.0	0.	0.	0.	310.0
AN31E	6	2	0.	2.49085	2579	859.67	15,474.0	0.	1,719.3	2,141.3	19,334.6
AN31F	1	3	0.	4.11753	2579	2579.00	2,579.0	0.	7,737.0	10,619.1	20,935.1
AN321	1	1	6.14018	84.70499	12592	547.48	12,592.0	77,317.1	547.5	46,374.1	136,830.7
AN322	5	0	1.16382	0.	430	430.00	2,150.0	500.4	0.	0.	2,650.4
AN32A	2	0	0.56185	0.	1292	1292.00	2,584.0	725.9	0.	0.	3,309.9

	SHOP SPARES		DEPOT SPARES		UNIT COST		COST OF LRU SPARES		COST OF SRU SPARES		
LRU	LRU (STKL)	SRU (STKS)	LRU (DPLL)	SRU (DPLS)	LRU (UC)	SRU (UCSRU)	SHOP (LRUSS)	DEPOT (LRUDS)	SHOP (SRUSS)	DEPOT (SRUDS)	TOTAL COST
AN551	1	1	54.12212	66.90985	53857	3364.81	53,837.0	1,837,032.4	3,364.8	225,139.1	2,119,373.3
AN55A	1	4	1.65210	3.52659	3833	1916.50	3,833.0	6,332.5	7,666.0	6,758.7	24,590.2
AN54A	1	1	27.00964	79.19890	96841	3026.28	96,841.0	2,615,640.2	3,026.3	239,678.1	2,955,185.6
AN54B	1	1	2.03535	15.92789	10980	1830.00	10,980.0	22,326.2	1,830.0	29,148.0	64,284.2
AN55A	1	1	24.14600	99.56142	30731	1138.19	30,731.0	742,030.9	1,138.2	113,319.3	887,219.4
AN53B	1	1	20.07931	69.78071	23228	1009.91	23,228.0	466,402.2	1,009.9	50,274.2	540,914.3
AN56A	1	1	7.31642	20.48779	26399	1466.61	26,399.0	193,146.2	1,466.6	30,047.6	251,059.4
AN52B	1	1	1.83396	9.79456	10499	437.46	10,499.0	17,154.7	437.5	4,284.7	32,375.9
TOTAL	179	197	550.34501	1719.93851	817859	128565.55	903,617.0	12,863,159.6	250,860.3	2,683,541.8	16,701,178.5

TOTAL ALL BASES..... 16,701,178.5

OTHER COSTS:

SPARE PARTS (SPRTS).....	40,892.9	
WAR RESERVE MATERIAL COST (WRMC).....	0.	
TOTAL.....		40,892.9

TOTAL CSPI..... 16,742,071.5

REPORT NO. 80

SPARES REQUIREMENTS PER YEAR -- REPLACEMENT

OUTPUT FILE - NON-BASE COST DATA BANK (HISTORICAL)

NUMBER OF BASES (NB) = 1
ANNUAL BASE FLYING HOURS (ABFH) = 25920.00

LRU	UNITS PROD. (PN)	CONDEMNATION RATE LRU (FCL)	CONDEMNATION RATE SRU (FCS)	UNIT COST LRU (UC)	UNIT COST SRU (UCSRU)	COST OF SPARES LRU (LRUNS)	COST OF SPARES SRU (SRUNS)	TOTAL COST
AA111	0.01950	0.01	0.05	50000.00	5571.43	7,356.7	6,616.1	13,972.8
AA112	0.02280	0.01	0.05	10000.00	909.09	1,738.2	5,929.0	7,667.2
AA113	0.09060	0.01	0.05	30000.00	4285.71	20,720.8	27,118.0	47,838.7
AA121	0.15300	0.01	0.05	60000.00	5157.89	77,760.0	66,498.6	144,258.6
AA21A	0.02440	0.01	0.05	700.00	100.00	23.9	43.8	67.7
AA21B	0.17400	0.01	0.05	10000.00	2000.00	2,433.9	0.	2,433.9
AA22A	0.	0.01	0.05	43898.00	1125.59	0.	626.1	626.1
AC111	0.01450	0.01	0.05	10546.00	958.73	971.5	3,904.2	4,875.6
AC112	0.01310	0.01	0.05	15738.00	1311.50	1,309.8	5,928.1	7,237.9
AC113	0.02130	0.01	0.05	5016.00	5016.00	678.8	4,381.6	5,060.4
AC114	0.00530	0.01	0.05	5495.00	5495.00	115.2	8,413.2	8,528.4
AC11A	0.00440	0.01	0.05	13299.00	2216.50	371.7	1,802.4	2,174.2
AC11B	0.	0.01	0.05	2709.00	677.25	0.	662.6	662.6
AC211	0.04510	0.01	0.05	4823.00	283.71	872.8	2,405.9	3,278.6
AC212	0.	0.01	0.05	5000.00	5000.00	0.	1,033.2	1,033.2
AC21A	0.	0.01	0.05	665.00	665.00	0.	220.1	220.1
AC311	0.14180	0.01	0.05	2153.00	269.13	1,108.3	387.9	1,496.2
AC312	0.01570	0.01	0.05	900.00	900.00	51.3	256.5	307.8
AC31A	0.04240	0.01	0.05	539.00	539.00	83.0	893.2	976.2
AC31B	0.00840	0.01	0.05	1100.00	1100.00	33.5	167.7	201.3
AC321	0.01850	0.01	0.05	4581.00	458.10	646.1	7,337.4	7,983.5
AC322	0.00050	0.01	0.05	700.00	350.00	2.7	54.7	57.4
AC323	0.00280	0.01	0.05	168.00	168.00	3.6	17.9	21.5
AC32A	0.00220	0.01	0.05	1079.00	1079.00	18.1	1,966.0	1,984.1
AC32B	0.02590	0.01	0.05	656.00	656.00	129.1	511.0	640.2
AC331	0.	0.01	0.05	657.00	328.50	0.	45.5	45.5
AC332	0.02950	0.01	0.05	960.00	960.00	30.2	74.7	104.9
AC333	0.	0.01	0.05	2691.00	269.10	0.	83.1	83.1
AC334	0.02950	0.01	0.05	133.00	133.00	4.2	21.2	25.4
AC33A	0.02250	0.01	0.05	554.00	554.00	15.2	87.4	100.6
AC411	0.02630	0.01	0.05	606.00	75.75	28.3	93.8	122.1
AC412	0.	0.01	0.05	308.00	44.00	0.	44.3	44.3
AC413	0.03940	0.01	0.05	200.00	200.00	14.0	0.	14.0
AC511	0.04760	0.01	0.05	2654.00	221.17	401.3	821.3	1,222.5
AC51A	0.	0.01	0.05	124.00	124.00	0.	141.2	141.2
AC51B	0.00820	0.01	0.05	8000.00	8000.00	208.4	0.	208.4
AC51C	0.	0.01	0.05	454.00	50.44	0.	20.8	20.8
AC611	0.27630	0.01	0.05	8000.00	8000.00	7,021.3	0.	7,021.3
AC612	0.00530	0.01	0.05	207.00	207.00	3.5	17.4	20.9
AC61A	0.00430	0.01	0.05	554.00	554.00	7.6	249.9	257.5
AI111	0.07160	0.01	0.05	2110.00	703.33	719.8	211.1	931.0
AI112	0.00730	0.01	0.05	802.00	401.00	27.9	0.	27.9

LRU	UNIT PROB. (PN)	CONDEMNATION RATE LRU (FCL)	CONDEMNATION RATE SRU (FCS)	UNIT COST LRU (UC)	UNIT COST SRU (UCSRU)	COST OF SPARES LRU (LRUNS)	COST OF SPARES SRU (SRURS)	TOTAL COST
AE11S	0.13270	0.01	0.05	4109.00	684.83	2,598.0	0.	2,598.0
AE11A	0.16510	0.01	0.05	317.00	52.83	219.2	6.2	225.3
AE121	0.73000	0.01	0.05	2067.00	516.75	575.2	0.	575.2
AM121	0.18410	0.01	0.05	55082.00	6120.22	46,852.8	76,872.1	123,724.9
AM13A	0.00640	0.01	0.05	8097.00	809.70	202.6	808.8	1,011.4
AM13B	0.	0.01	0.05	4500.00	375.00	0.	621.6	621.6
AM13C	0.01990	0.01	0.05	2583.00	516.60	201.0	201.0	401.9
AM13D	0.	0.01	0.05	1213.00	1213.00	0.	943.7	943.7
AM13E	0.	0.01	0.05	79.00	79.00	0.	8.5	8.5
AM13F	0.	0.01	0.05	901.00	901.00	0.	1,484.7	1,484.7
AM14A	0.59150	0.01	0.05	8546.00	2848.67	3,211.4	2,882.0	6,093.4
AM211	0.	0.01	0.05	4505.00	901.00	0.	57.1	57.1
AM212	0.07380	0.01	0.05	118.00	59.00	2.0	0.	2.0
AM213	0.	0.01	0.05	300.00	150.00	0.	6.2	6.2
AM214	0.13340	0.01	0.05	997.00	199.40	30.0	13.2	43.1
AM111	0.04110	0.01	0.05	303.00	303.00	43.2	0.	43.2
AM11A	0.12180	0.01	0.05	3271.00	3271.00	1,380.6	0.	1,380.6
AN11B	0.09220	0.01	0.05	3229.00	3229.00	1,031.6	861.6	1,893.2
AN11C	0.	0.01	0.05	799.00	133.17	0.	149.0	149.0
AN11D	0.05490	0.01	0.05	5087.00	1271.75	967.8	0.	967.8
AN11E	0.04170	0.01	0.05	711.00	711.00	102.7	420.1	522.8
AN121	0.03660	0.01	0.05	5705.00	335.59	1,459.8	7,477.1	8,936.9
AN122	0.01940	0.01	0.05	700.00	700.00	90.0	0.	90.0
AN12A	0.	0.01	0.05	144.00	144.00	0.	55.4	55.4
AN131	0.00670	0.01	0.05	1727.00	287.83	28.5	899.7	928.1
AN132	0.00680	0.01	0.05	900.00	900.00	15.1	0.	15.1
AN13A	0.00710	0.01	0.05	185.00	185.00	3.2	8.0	11.2
AN13B	0.	0.01	0.05	951.00	237.75	0.	744.3	744.3
AN211	0.06820	0.01	0.05	2206.00	367.67	1,092.3	5,009.2	6,101.6
AN212	0.	0.01	0.05	791.00	791.00	0.	157.9	157.9
AN213	0.03690	0.01	0.05	4305.00	4305.00	1,153.4	0.	1,153.4
AN21A	0.11470	0.01	0.05	1244.00	1244.00	1,036.0	0.	1,036.0
AN21B	0.	0.01	0.05	343.00	114.33	0.	10.0	10.0
AN221	0.15820	0.01	0.05	5705.00	1141.00	2,150.1	5,017.9	7,168.1
AN222	0.03120	0.01	0.05	923.00	923.00	68.6	0.	68.6
AN311	0.01950	0.01	0.05	27085.00	2462.27	8,052.8	12,820.7	20,873.6
AN312	0.00420	0.01	0.05	14525.00	968.33	930.1	2,864.3	3,794.4
AN313	0.00660	0.01	0.05	17036.00	608.43	1,714.3	3,409.2	5,123.5
AN314	0.00940	0.01	0.05	6116.00	2038.67	876.6	575.0	1,451.6
AN315	0.	0.01	0.05	364.00	121.33	0.	46.2	46.2
AN31A	0.00070	0.01	0.05	10666.00	1777.67	113.8	1,924.4	2,038.2
AN31B	0.00890	0.01	0.05	9996.00	908.73	1,356.4	9,761.1	11,117.6
AN31C	0.01800	0.01	0.05	14676.00	489.20	4,027.8	3,602.6	7,630.4
AN31D	0.	0.01	0.05	155.00	155.00	0.	0.	0.
AN31E	0.	0.01	0.05	2579.00	859.67	0.	321.1	321.1
AN31F	0.	0.01	0.05	2579.00	2579.00	0.	1,592.5	1,592.5
AN321	0.04590	0.01	0.05	12592.00	547.48	2,319.0	6,954.7	9,273.8
AN322	0.00870	0.01	0.05	430.00	430.00	15.0	0.	15.0
AN32A	0.00420	0.01	0.05	1292.00	1292.00	21.8	0.	21.8
AN331	0.10740	0.01	0.05	53837.00	3364.81	55,100.0	33,764.1	88,864.1

END	NHIS PROD. (PN)	CONDEMNATION RATE ENU (PCE)	CONDEMNATION RATE SNU (PCS)	UNIT COST ENU (UC)	UNIT COST SNU (UCSNU)	COST OF SPARES ENU (ENUNS)	COST OF SPARES SNU (SNUNS)	TOTAL COST
AUSSA	0.00520	0.01	0.05	3833.00	1916.50	189.9	1,013.6	1,203.5
ANSSA	0.07970	0.01	0.05	96841.00	3026.28	78,453.5	35,944.5	114,398.0
AUSSB	0.00600	0.01	0.05	10980.00	1850.00	669.7	4,371.3	5,041.0
ANSSA	0.06650	0.01	0.05	30731.00	1138.19	22,256.5	16,994.5	39,251.0
ANSSB	0.05550	0.01	0.05	23228.00	1009.91	13,989.3	7,539.6	21,528.9
ANSSA	0.08060	0.01	0.05	26399.00	1466.61	5,793.2	4,506.2	10,299.5
ANSSB	0.01800	0.01	0.05	10499.00	457.46	514.5	642.6	1,157.1
TOTAL	4.61510	0.99	4.95	317859.00	128565.55	385,817.6	402,450.8	788,268.4

TOTAL CSP (ALL BASES) -- 788,268.4

REPORT NO. 9 -- SUPPORT EQUIPMENT REQUIREMENTS/COST

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ANNUAL PEAK BASE FLYING HOURS (PBFH) = 51840.00
NUMBER OF BASES (NB) = 1
AVAILABLE ANNUAL OPERATING HOURS (AAOH) = 8760.00

SE ID	TEST STATION DEMAND TIME (TSDEM)	TEST STATION REPAIR TIME (TSDOT)	UTIL RATE (A)	# PER BASE (NSER)	UNIT COST (UCSE)	SE COST/BASE (CPUSE)	INITIAL SE SPARES COST/BASE (CSESM)	COST OF INTER-CONNECTION HARDWARE (CIH)	COST OF SOFTWARE (CSU)	INVESTMENT COST (CSEI)	REPLACEMENT COST (CSE)
6812M	0.27506	0.03469	1.01325	2	397,400.0	794,800.0	158,960.0	0.	0.	953,760.0	31,792.0
6676C	0.04158	0.00676	0.21221	1	488,900.0	488,900.0	97,780.0	0.	0.	586,680.0	19,556.0
6A57A	0.25457	0.04621	0.96694	1	506,900.0	506,900.0	101,380.0	0.	0.	608,280.0	20,276.0
6877C	0.06722	0.01013	0.33839	1	219,000.0	219,000.0	43,800.0	0.	0.	262,800.0	8,760.0
6A530	0.00500	0.00272	0.03087	1	157,200.0	157,200.0	31,440.0	0.	0.	188,640.0	6,288.0
5A5AM	0.00140	0.00041	0.00656	1	295,200.0	295,200.0	59,040.0	0.	0.	354,240.0	11,808.0
6A25S	0.04785	0.00652	0.23562	1	316,700.0	316,700.0	63,340.0	0.	0.	380,040.0	12,668.0
6A41S	0.01653	0.00350	0.08921	1	698,400.0	698,400.0	139,680.0	0.	0.	838,080.0	27,936.0
6A5SA	0.00132	0.00012	0.00461	1	10,000.0	10,000.0	2,000.0	0.	0.	12,000.0	400.0
6875C	0.05476	0.02191	0.48060	1	1,016,800.0	1,016,800.0	203,360.0	0.	0.	1,220,160.0	40,672.0
6A6AM	0.00365	0.00368	0.03850	1	762,800.0	762,800.0	152,560.0	0.	0.	915,360.0	30,512.0
6A72C	0.05708	0.00706	0.27822	1	1,259,500.0	1,259,500.0	251,900.0	0.	0.	1,511,400.0	50,380.0
7A13S	0.04469	0.01506	0.28593	1	366,660.0	366,660.0	73,332.0	0.	0.	439,992.0	14,666.4
6B63C	0.23265	0.02276	1.09842	2	1,579,400.0	3,158,800.0	631,760.0	0.	0.	3,790,560.0	126,352.0
6A61S	0.16785	0.01922	0.61041	1	1,202,700.0	1,202,700.0	240,540.0	0.	0.	1,443,240.0	48,108.0
TOTAL SHOP PECULIAR SE COSTS PER BASE.....						11,254,360.0	2,250,872.0	0.	0.	13,505,232.0	450,174.4

OTHER BASE LEVEL COSTS:

COMMON SHOP BASE SE COST (BCA).....	78,000.0	
EQUIPMENT INDEPENDENT BASE SE COST (BPA)....	388,000.0	
PECULIAR AND COMMON FLIGHTLINE SE (FLA).....	1,080,000.0	
TOTAL OTHER SE COSTS (OBSEC).....		1,546,000.0
TOTAL SE COST PER BASE.....		15,051,232.0

CSEI -- TOTAL NON-RECURRING SE COST (ALL BASES)..... 15,051,232.0
CSE -- TOTAL RECURRING SE COST PER YEAR (ALL BASES)..... 450,174.4
TOTAL RECURRING SE COST OVER USAGE PERIOD OF 15 YEARS..... 6,752,616.0

SUPPORT EQUIPMENT LIFE CYCLE COST..... 21,803,848.0

REPORT NO. 10 -- COST OF TRAINING

OUTPUT FILE - NON-DAIS COST DATA BANK (HISTORICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES (NB) = 1

AFSC	FTS COURSE LENGTH WEEKS (NWK)	FTS COST/ AFSC (CFTS)	OJT COST/ AFSC (COJT)	MANPOWER REQUIREMENTS (MR)	ANNUAL TURNOVER RATE (TRS)	TOTAL COST
45171	0.	0.	0.	2.39248	0.	0.
42153	0.	0.	1,307.0	2.39248	0.246	977.7
32251	0.	0.	5,455.0	36.55237	0.246	62,092.2
32231	27.30	16,939.5	0.	52.86623	0.592	366,481.3
3265A	0.	0.	4,251.0	1.96804	0.246	2,589.2
3263A	25.60	18,369.1	0.	1.96804	0.592	23,569.6
32650	0.	0.	5,825.0	2.84723	0.246	5,405.1
32630	29.10	20,297.8	0.	2.84723	0.592	38,066.1
46250	0.	0.	1,196.0	0.09348	0.246	35.0
46230	14.20	8,365.2	0.	0.09348	0.592	515.0
32850	0.	0.	2,327.0	8.35445	0.247	6,097.9
32830	33.90	20,777.5	0.	7.65839	0.621	109,422.7
32851	0.	0.	2,268.0	6.93726	0.254	5,045.5
32831	29.80	17,728.5	0.	6.63581	0.676	87,369.5
32551	0.	0.	2,814.0	5.11537	0.206	3,924.9
32531	19.00	12,085.5	0.	4.61030	0.306	21,664.5
53151	0.	0.	3,471.0	0.02604	0.246	26.1
32853	0.	0.	722.0	1.06968	0.246	241.5
32833	34.40	21,471.0	0.	0.91564	0.592	12,921.0
40451	0.	0.	4,379.0	0.14388	0.246	197.0
40431	22.20	18,061.1	0.	0.13922	0.592	1,656.2
42152	0.	0.	1,607.0	0.03657	0.246	3.3
32854	0.	0.	5,255.0	6.86211	0.289	12,825.5
32834	25.40	20,786.1	0.	6.40467	0.806	116,176.3
45151	0.	0.	4,958.0	0.99130	0.246	1,530.5

TOTAL COST PER BASE..... 876,833.5
TOTAL CPT (ALL BASES)..... 876,833.5
TOTAL RECURRING CPT (PIUP = 15 YEARS)..... 13,152,503.0
NON-RECURRING INITIAL CAUSE COST (CPII)..... 0.
LIFE CYCLE TRAINING COST..... 13,152,503.0

II.

DAIS THEORETICAL
RELIABILITY, MAINTAINABILITY, COST MODEL
BATCH OUTPUT REPORTS

REPORT NO. 1 -- SYSTEM COST

PROG = 15 YEARS BASE YEAR = 1976

DAIS COST DATA BANK (THEORETICAL)

		COST	% LCC
RC	- RECURRING		
	CS - SUPPORT.....	68,255,498	56.095%
	CO - OPERATION.....	0	0. %
NRC	- NON-RECURRING		
	CRD - R & D.....	6,210,000	2.540%
	CSI - SYSTEM INVESTMENT.....	90,288,839	36.975%
	CDI - SUPPORT INVESTMENT.....	59,767,402	24.445%
TDP	- DISPOSAL.....	0	0. %
LCC	- TOTALS.....	244,519,740	100.000%

REPORT NO. 2 -- EXPANDED NON-RECURRING COSTS (NREC)

UNIS COST DATA BANK (THEORETICAL)

		COST	% ECC
RC -	RECURRING	88,251,498	36.07%
	PROP + 15 YEARS		
DSP -	DISPOSAL	0	0. %
NRC -	NON-RECURRING		
	CRD - R & D	6,210,000	2.54%
	CSI - SYSTEM INVESTMENT		
	CPP - PROCUREMENT	90,288,859	36.92%
	CPM - PROJECT MANAGEMENT	0	0. %
	CUI - SUPPORT INVESTMENT		
	CPTI - MAINTENANCE TRAINING	0	0. %
	CSPI - SPARES	14,529,776	5.86%
	CONI - SEA DEPOT	23,636,140	9.66%
	CAEI - SEA FIELD	17,697,180	7.23%
	CSWI - SOFTWARE ACQUISITION	1,997,711	0.81%
	CAGI - MAINTENANCE MANUALS	2,096,931	0.85%
	CIMI - INVENTORY MANAGEMENT	11,665	0.00%
	CFAI - FACILITIES	0	0. %
ECC -	TOTALS	244,519,760	100.00%

REPORT NO. 1 -- EXPANDED RECURRING COSTS (M$)

BASE COST DATA DATA (THEORETICAL)

		COST	% LCC
NRE	= NON RECURRING	136,266,242	45.90%
DSP	= DISPOSAL	0	0. %
RC	= RECURRING (FOR FLUP = 15 YEARS)		
	CO = OPERATION		
	CFL = FUEL	0	0. %
	COP = PERSONNEL		
	CAC = AIRCREW	0	0. %
	COO = OTHER OPERATIONS	0	0. %
	CS = SUPPORT		
	CUM = ON-EQUIPMENT MAINTENANCE	15,555,961	5.24%
	CIM = INTERMEDIATE MAINTENANCE	16,418,985	5.84%
	CPT = TRAINING	8,330,479	1.40%
	CSP = SPARES	10,141,550	4.21%
	CDM = DEPOT MAINTENANCE	27,799,515	11.56%
	CSE = SUPPORT EQUIPMENT	8,156,460	3.41%
	CSW = SOFTWARE	2,362,000	1.04%
	CPA = MAINTENANCE MANUALS	2,156,797	0.96%
	CIM = INVENTORY MANAGEMENT	511,990	0.21%
CCC	= TOTALS	244,519,740	100.00%

REPORT NO. 6 -- COSTS OF SUBSYSTEM CONTRIBUTIONS

RECURRING COST ELEMENTS (PER YEAR)

OUTPUT FILE - DATA COST DATA BANK (THEORETICAL)

ID	CSM		CSR		CPI		CSP		CDR		CJG		CEM		TOTAL	
		% RCT		% RCT		% RCT		% RCT		% RCT		% RCT		% RCT		% RCT
AA110	142,595.8		79,683.7		60,888.5		68,554.6		56,018.5		8,784.1		462.6		417,264.8	
	2,479		1,356		1,055		1,165		0,952		0,149		0,008		7,092	
AA120	177,824.5		134,647.8		85,270.9		144,799.7		75,195.4		4,675.8		154.2		620,822.5	
	3,022		2,295		1,449		2,461		1,264		0,079		0,003		10,552	
AL110	22,608.4		57,130.9		20,785.6		25,475.5		55,460.6		8,079.9		616,9		185,169.8	
	0,384		0,886		0,353		0,433		0,965		0,137		0,010		3,147	
AL120	19,667.4		50,405.3		13,614.3		5,950.1		7,713.6		5,196.0		308.4		80,850.2	
	0,334		0,517		0,231		0,067		0,131		0,088		0,005		1,374	
AL130	1,982.1		2,597.9		1,249.1		675.4		15,395.1		5,556.6		308.4		27,280.5	
	0,066		0,041		0,021		0,011		0,262		0,057		0,005		0,464	
AL140	28,148.7		65,657.7		23,679.5		7,044.8		6,484.8		4,696.3		462.6		126,172.4	
	0,546		1,082		0,599		0,120		0,110		0,080		0,008		2,144	
AL150	1,268.9		2,041.4		1,882.2		244.8		721.8		5,218.5		616.8		15,996.2	
	0,040		0,035		0,032		0,004		0,012		0,089		0,010		0,272	
AL160	14,571.7		4,686.8		5,808.7		189.7		1,292.5		4,696.3		462.6		29,708.5	
	0,248		0,080		0,065		0,003		0,022		0,080		0,008		0,505	
AL170	2,705.5		2,936.3		1,444.5		509.0		1,622.6		1,608.0		154.2		10,279.0	
	0,037		0,050		0,025		0,005		0,028		0,027		0,003		0,175	
AL180	8,877.5		5,826.6		5,007.8		6,955.4		45,244.4		1,925.9		308.4		70,078.0	
	0,150		0,065		0,051		0,118		0,769		0,033		0,005		1,191	
AL190	54,858.9		6,802.7		13,015.2		3,770.4		48,695.0		5,422.9		616.8		117,979.9	
	0,677		0,116		0,221		0,064		0,824		0,092		0,010		2,005	
AM110	4,755.8		1,247.5		1,376.7		575.2		12,987.0		1,608.0		154.2		22,682.4	
	0,080		0,021		0,023		0,010		0,221		0,027		0,003		0,386	
AM120	12,299.0		12,133.4		6,501.2		4,305.9		5,925.7		6,944.6		462.6		48,570.3	
	0,209		0,206		0,110		0,073		0,101		0,118		0,008		0,826	
AM130	71,544.6		71,583.3		58,282.0		122,517.6		755,628.2		2,610.0		154.2		1,042,120.0	
	1,216		1,211		0,650		2,082		12,503		0,045		0,003		17,712	
AM210	5,078.3		671.9		1,590.9		108.9		719.1		5,831.7		616.8		14,619.6	
	0,086		0,011		0,027		0,002		0,012		0,099		0,010		0,248	
AM310	2,005.2		550.6		600.5		47.3		3,797.3		996.9		154.2		8,147.8	
	0,034		0,009		0,010		0,001		0,065		0,017		0,003		0,138	
AM320	28,066.9		47,490.5		18,955.1		6,021.4		8,024.5		5,356.6		308.4		106,221.4	
	0,161		0,807		0,322		0,102		0,136		0,057		0,005		1,771	
AM330	12,058.7		8,576.7		5,512.0		1,808.6		1,235.9		2,967.8		308.4		32,428.1	
	0,205		0,146		0,094		0,031		0,021		0,050		0,005		0,551	
AM340	28,525.7		51,027.2		20,265.7		7,809.4		37,241.8		5,876.8		462.6		141,012.1	
	0,366		0,867		0,344		0,133		0,633		0,066		0,008		2,397	
AM350	8,761.5		8,674.8		4,702.5		7,225.2		21,806.5		2,765.4		308.4		54,222.1	
	0,149		0,147		0,080		0,123		0,371		0,047		0,005		0,922	
AM360	76,558.5		89,456.4		56,788.9		54,682.6		75,240.5		15,960.1		771.0		349,255.9	
	1,298		1,520		0,965		0,569		1,279		0,271		0,013		5,936	
AM520	19,444.3		28,295.7		16,980.4		5,259.1		13,235.6		2,334.6		308.4		85,858.4	
	3,550		0,481		0,289		0,089		0,225		0,040		0,005		1,459	
AM550	83,292.3		105,770.0		64,648.7		90,051.1		222,613.1		2,221.2		154.2		568,700.7	
	1,416		1,797		1,098		1,530		3,783		0,038		0,003		9,664	

ID	CUM		CSM		CPT		CSP		CDM		CZG		CEM		TOTAL	
		% HCY		% HCY		% HCY		% HCY		% HCY		% HCY		% HCY		% HCY
AZ110	825.5	0.011	1,386.6	0.024	247.5	0.011	5,979.6	0.068	813.6	0.014	5,904.7	0.067	2,158.8	0.037	15,681.4	0.235
AZ120	17,150.1	0.241	40,121.6	0.704	22,905.9	0.389	50,854.0	0.864	140,671.4	2.391	6,582.6	0.078	2,621.4	0.045	284,885.2	4.842
AZ130	8,855.0	0.115	21,865.7	0.372	9,914.2	0.169	31,601.3	0.537	77,664.2	1.320	10,714.5	0.182	10,023.0	0.170	168,617.9	2.865
AZ140	15,528.4	0.204	15,331.0	0.261	10,412.2	0.177	22,121.2	0.376	77,188.8	1.312	5,878.8	0.066	2,158.8	0.037	146,617.2	2.492
AZ210	1,051.2	0.015	1,445.8	0.025	804.5	0.015	2,404.9	0.041	4,877.6	0.083	2,150.2	0.036	1,079.4	0.018	13,855.4	0.235
AZ220	1,014.4	0.017	1,012.8	0.017	700.0	0.012	492.8	0.008	2,906.6	0.049	6,989.5	0.119	3,084.0	0.052	16,204.1	0.275
AZ310	45,504.7	0.754	15,419.6	0.262	19,041.7	0.324	17,852.2	0.303	45,307.2	0.736	3,245.1	0.055	2,158.8	0.037	144,507.4	2.456
AZ410	7,270.5	0.124	16,525.2	0.281	8,625.5	0.147	8,523.2	0.145	19,150.9	0.325	2,425.6	0.041	1,562.0	0.026	64,082.9	1.089
AZ420	16,896.6	0.287	33,665.5	0.568	17,527.0	0.298	9,462.5	0.161	36,611.8	0.622	14,075.7	0.239	2,004.6	0.034	130,025.2	2.210
	605,597.5	10.358	961,285.7	16.556	555,565.5	9.459	689,568.7	11.720	1,853,287.6	31.499	157,119.9	2.670	55,466.0	0.603	5,155,670.5	87.628
OTHER RECURRING COSTS -- CSE.....															557,096.0	9.469
CSW.....															170,800.0	2.903
CFL.....															0.	0.
CAC.....															0.	0.
COO.....															0.	0.
TEST STATION/TEST DRAWER (CSM).....															0.	0.
TEST STATION/TEST DRAWER (CPT).....															0.	0.
CDR OVERHAUL.....															0.	0.
															0.	0.
TOTAL RCY.....															5,885,565.5	100.000

NON-RECURRING COST ELEMENTS

ID	CSPE		CJGE		CPP		CIMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC		% NRC
AA110	1,534,896		117,120		7,452,000		152		8,904,169	
		0.854		0.075		4.769		0.000		5.698
AA120	5,130,757		62,317		4,968,000		50		8,161,125	
		2.003		0.040		3.179		0.000		5.223
AC110	381,826		107,732		3,046,626		202		3,536,388	
		0.244		0.069		1.950		0.000		2.263
AC210	65,882		69,280		813,344		101		948,608	
		0.042		0.044		0.520		0.000		0.607
AC310	19,654		44,754		252,788		101		317,298	
		0.013		0.029		0.162		0.000		0.203
AC320	69,622		62,617		451,177		152		583,569	
		0.045		0.040		0.289		0.000		0.373
AC330	20,811		69,580		367,714		202		458,309	
		0.013		0.045		0.235		0.000		0.293
AC410	3,846		62,617		92,239		152		158,854	
		0.002		0.040		0.059		0.000		0.102
AC510	8,741		21,440		219,751		50		249,983	
		0.006		0.014		0.141		0.000		0.160
AC610	239,599		25,678		679,539		101		944,918	
		0.153		0.016		0.435		0.000		0.605
AI110	133,379		72,305		607,586		202		813,474	
		0.085		0.046		0.389		0.000		0.521
AI120	21,242		21,440		171,147		50		213,881	
		0.014		0.014		0.110		0.000		0.137
AM110	89,060		92,594		1,746,334		152		1,928,141	
		0.057		0.059		1.118		0.000		1.234
AM120	2,105,570		35,066		4,560,789		50		6,699,477	
		1.348		0.022		2.919		0.000		4.287
AM210	13,864		77,755		490,176		202		581,999	
		0.009		0.050		0.314		0.000		0.372
AN110	1,877		13,265		24,840		50		40,033	
		0.001		0.008		0.016		0.000		0.026
AN120	74,193		44,754		530,334		101		649,382	
		0.047		0.029		0.339		0.000		0.416
AN130	17,602		39,303		217,515		101		274,522	
		0.011		0.025		0.139		0.000		0.176
AN210	123,150		51,716		604,605		152		779,624	
		0.079		0.033		0.387		0.000		0.499
AN220	114,949		36,578		548,798		101		700,428	
		0.074		0.023		0.351		0.000		0.448
AN310	647,618		212,801		5,392,432		253		6,253,106	
		0.414		0.136		3.451		0.000		4.002
AN320	80,265		51,128		1,078,221		101		1,189,716	
		0.051		0.020		0.690		0.000		0.761
AN330	2,155,664		29,616		4,457,703		50		6,643,034	
		1.379		0.019		2.853		0.000		4.251
AZ110	185,339		52,929		5,852,880		709		6,091,858	
		0.119		0.034		3.745		0.000		3.898

ID	CSPI		CIGI		CPM		CIMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC		% NRC
AZ120	1,056,481		61,104		4,901,760		862		6,000,208	
		0.663		0.039		3.137		0.001		3.840
AZ130	697,626		142,859		9,670,320		3,296		10,513,902	
		0.446		0.091		6.188		0.002		6.728
AZ140	550,810		51,716		3,187,800		709		3,771,037	
		0.340		0.033		2.040		0.000		2.413
AZ210	161,356		28,403		2,075,852		554		2,265,946	
		0.103		0.018		1.328		0.000		1.450
AZ220	52,361		93,193		1,188,180		1,014		1,314,748	
		0.021		0.060		0.760		0.001		0.841
AZ310	331,353		43,241		10,216,800		709		10,592,105	
		0.212		0.028		6.538		0.000		6.778
AZ410	160,376		32,341		5,263,200		507		5,456,424	
		0.103		0.021		3.368		0.000		3.492
AZ420	303,120		187,675		9,158,400		659		9,649,855	
		0.194		0.120		5.861		0.000		6.175
	14,290,702		2,096,931		90,288,839		11,663		106,686,137	
		9.145		1.341		57.779		0.007		68.272

OTHER NON-RECURRING COSTS -- CPTI..... 0

0.

CDMI..... 23,636,140

15.126

CSEI..... 17,697,180

11.325

CSWI..... 1,997,711

1.278

CFAI..... 0

0.

CRD..... 6,210,000

3.974

CPM..... 0

0.

SPRTS..... 39,073

0.025

WRMC..... 0

0.

TOTAL NRC..... 156,260,242

100.000

REPORT NO. 5 -- COSTS BY END CONTRIBUTIONS

RECURRING COST ELEMENTS (PER YEAR)

OUTPUT FILE - DAIS COST DATA BANK (THEORETICAL)

ID	COM		CSM		CPT		CSP		CDH		CIM		TOTAL	
		% RCY		% RCY		% RCY		% RCY		% RCY		% RCY		% RCY
AA111	18,421.5	0.313	9,389.1	0.160	7,690.4	0.131	13,868.4	0.236	8,891.7	0.151	154.2	0.003	58,415.3	0.993
AA112	55,553.7	0.910	25,116.7	0.427	22,011.5	0.374	7,570.6	0.129	9,743.3	0.166	154.2	0.003	118,149.7	2.008
AA113	70,920.5	1.205	45,174.9	0.768	31,186.9	0.530	47,095.6	0.800	37,385.6	0.635	154.2	0.003	231,915.7	3.942
AA121	177,824.5	3.022	134,897.8	2.293	85,276.9	1.449	144,799.7	2.461	73,195.4	1.244	154.2	0.003	616,148.5	10.472
AC111	8,217.6	0.140	18,097.3	0.308	7,184.7	0.122	4,858.9	0.083	30,039.9	0.511	154.2	0.003	68,552.7	1.165
AC112	8,751.0	0.149	21,566.8	0.367	8,592.5	0.146	7,521.4	0.128	16,966.8	0.288	154.2	0.003	63,552.7	1.077
AC113	2,744.6	0.047	5,446.7	0.093	2,171.2	0.037	4,948.2	0.084	7,388.9	0.126	154.2	0.003	22,853.9	0.388
AC114	2,891.2	0.049	7,040.0	0.120	2,835.2	0.048	8,344.7	0.142	1,065.0	0.018	154.2	0.003	22,330.4	0.380
AC211	19,231.3	0.327	30,063.6	0.511	13,399.1	0.228	2,864.6	0.049	7,713.6	0.131	154.2	0.003	73,426.3	1.248
AC212	431.1	0.007	341.7	0.006	215.3	0.004	1,065.6	0.018	0.	0.	154.2	0.003	2,207.8	0.038
AC311	2,601.4	0.044	1,694.4	0.029	838.4	0.014	368.9	0.006	12,840.1	0.218	154.2	0.003	18,497.4	0.314
AC312	1,300.7	0.022	705.5	0.012	410.7	0.007	304.4	0.005	2,553.0	0.043	154.2	0.003	5,426.5	0.092
AC321	19,838.6	0.337	63,128.9	1.073	23,307.3	0.396	6,965.8	0.118	6,207.5	0.106	154.2	0.003	119,602.4	2.033
AC322	228.5	0.004	133.6	0.002	77.3	0.001	57.4	0.001	130.3	0.002	154.2	0.003	781.4	0.013
AC323	279.6	0.005	395.2	0.007	94.8	0.002	21.6	0.000	146.9	0.002	154.2	0.003	1,092.3	0.019
AC331	870.6	0.015	438.9	0.007	335.4	0.006	35.3	0.001	0.	0.	154.2	0.003	1,834.4	0.031
AC332	1,235.1	0.021	678.8	0.012	452.9	0.008	115.1	0.002	506.3	0.009	154.2	0.003	3,142.4	0.053
AC333	1,490.0	0.025	661.7	0.011	581.9	0.010	66.2	0.001	0.	0.	154.2	0.003	2,954.0	0.050
AC334	1,673.2	0.028	262.0	0.004	512.1	0.009	27.9	0.000	215.5	0.004	154.2	0.003	2,844.9	0.048
AC411	8,245.2	0.140	3,088.4	0.052	2,444.4	0.042	131.5	0.002	566.5	0.010	154.2	0.003	14,630.1	0.249
AC412	4,691.3	0.080	1,272.3	0.022	1,014.0	0.017	44.2	0.001	0.	0.	154.2	0.003	7,176.0	0.122
AC413	1,635.3	0.028	326.1	0.006	350.3	0.006	14.0	0.000	726.0	0.012	154.2	0.003	3,205.9	0.054
AC511	2,206.3	0.037	2,934.3	0.050	1,444.5	0.025	309.0	0.005	1,622.6	0.028	154.2	0.003	8,670.9	0.147

ID	COM		CSM		CMI		CSP		CDM		CIM		TOTAL	
		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY
AC011	8,500.2	0.144	5,023.1	0.062	2,806.2	0.049	6,914.9	0.118	45,073.2	0.766	154.2	0.003	67,131.9	1.141
AC012	527.3	0.006	205.3	0.003	141.6	0.002	20.6	0.000	171.1	0.003	154.2	0.003	1,020.2	0.017
AI111	8,824.7	0.150	1,555.4	0.026	2,272.5	0.051	924.7	0.016	5,035.0	0.086	154.2	0.003	19,471.3	0.331
AI112	765.4	0.013	127.2	0.002	248.4	0.004	27.8	0.000	1,591.1	0.024	154.2	0.003	2,712.0	0.046
AI113	15,914.0	0.270	2,219.1	0.038	4,469.6	0.076	2,595.2	0.044	31,760.7	0.540	154.2	0.003	55,112.7	0.937
AI114	16,556.8	0.278	2,901.1	0.049	5,522.9	0.090	217.6	0.004	10,308.3	0.175	154.2	0.003	35,261.0	0.599
AI121	6,755.8	0.080	1,247.5	0.021	1,376.2	0.023	575.2	0.010	12,987.0	0.221	154.2	0.003	21,074.4	0.358
AM111	5,715.8	0.063	2,367.6	0.040	1,621.4	0.028	997.7	0.017	1,353.4	0.023	154.2	0.003	10,207.4	0.173
AM112	5,402.2	0.059	6,782.9	0.115	2,716.6	0.046	1,277.6	0.022	3,429.5	0.058	154.2	0.003	17,823.1	0.303
AM113	5,122.9	0.087	2,985.5	0.051	2,163.2	0.037	2,030.6	0.035	1,140.8	0.019	154.2	0.003	13,595.3	0.231
AM121	71,544.6	1.216	71,583.3	1.215	38,262.0	0.650	122,517.6	2.082	735,628.2	12.503	154.2	0.003	1,039,490.0	17.668
AM211	846.7	0.014	134.6	0.002	275.9	0.005	56.7	0.001	0.	0.	154.2	0.003	1,468.1	0.025
AM212	846.7	0.014	40.2	0.001	242.0	0.004	2.0	0.000	88.7	0.002	154.2	0.003	1,373.9	0.023
AM213	422.8	0.007	24.1	0.000	121.1	0.002	8.3	0.000	0.	0.	154.2	0.003	728.5	0.012
AM214	2,962.0	0.050	475.1	0.008	951.9	0.016	43.9	0.001	630.4	0.011	154.2	0.003	5,217.4	0.089
AN111	25003.2	0.054	550.6	0.009	600.3	0.010	47.3	0.001	3,797.3	0.065	154.2	0.003	7,152.9	0.122
AN121	19,506.1	0.328	47,135.4	0.801	18,089.1	0.318	5,931.2	0.101	3,467.6	0.059	154.2	0.003	94,685.6	1.609
AN122	760.8	0.013	355.1	0.006	264.0	0.004	90.3	0.002	4,556.8	0.077	154.2	0.003	6,181.2	0.105
AN151	11,895.1	0.202	8,568.5	0.146	5,474.6	0.093	1,795.1	0.030	451.7	0.008	154.2	0.003	28,537.3	0.482
AN152	143.6	0.002	8.2	0.000	37.4	0.001	15.5	0.000	784.2	0.013	154.2	0.003	1,143.0	0.019
AN211	19,011.4	0.306	49,427.9	0.840	19,225.5	0.327	6,014.5	0.102	23,916.8	0.407	154.2	0.003	116,750.3	1.984
AN212	485.9	0.017	872.8	0.015	534.9	0.009	648.2	0.011	0.	0.	154.2	0.003	3,196.1	0.054
AN213	1,551.3	0.023	726.5	0.012	503.4	0.009	1,166.6	0.019	13,325.0	0.226	154.2	0.003	17,186.9	0.292
AN221	8,509.7	0.141	8,345.1	0.142	4,505.8	0.077	7,162.2	0.122	19,073.2	0.324	154.2	0.003	47,546.1	0.808
AN222	451.8	0.008	351.7	0.006	198.6	0.003	63.0	0.001	2,733.3	0.046	154.2	0.003	3,932.6	0.067
AN511	25,009.9	0.476	31,346.2	0.534	20,271.4	0.345	22,564.7	0.384	44,243.4	0.752	154.2	0.003	146,639.7	2.492

ED	CDR		CSM		CMT		CSP		CDR		CIM		TOTAL	
		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY		% MCY
AN512	15,541.5		21,939.1		12,757.6		4,489.7		5,465.5		154.2		60,347.3	
		0.264		0.373		0.217		0.076		0.093		0.003		1.026
AN515	27,904.5		54,129.5		21,189.3		6,055.2		17,093.3		154.2		106,525.8	
		0.474		0.580		0.360		0.103		0.291		0.003		1.811
AN516	5,554.0		1,005.3		1,718.7		1,524.5		8,438.5		154.2		16,395.3	
		0.060		0.017		0.029		0.026		0.143		0.003		0.279
AN517	1,548.9		986.2		852.0		48.4		0.		154.2		3,589.7	
		0.023		0.017		0.014		0.001		0.		0.003		0.058
AN521	17,066.2		28,246.2		16,858.0		5,244.1		12,525.1		154.2		82,071.7	
		0.324		0.480		0.286		0.089		0.213		0.003		1.395
AN522	578.3		49.5		142.4		15.0		712.5		154.2		1,652.0	
		0.006		0.001		0.002		0.000		0.012		0.003		0.025
AN531	85,292.5		105,720.0		64,648.7		90,051.1		222,615.1		154.2		566,479.5	
		1.416		1.797		1.099		1.531		3.784		0.003		9.628
AZ111	420.8		938.4		504.3		555.0		576.4		2,004.6		5,001.5	
		0.007		0.016		0.009		0.009		0.010		0.034		0.085
AZ112	204.7		448.2		245.3		3,424.6		235.2		154.2		4,710.2	
		0.003		0.008		0.004		0.058		0.004		0.003		0.080
AZ121	16,122.6		43,656.2		21,604.9		55,499.9		139,633.7		2,467.2		258,982.5	
		0.274		0.742		0.367		0.603		2.373		0.042		4.402
AZ122	1,027.5		2,467.4		1,299.1		15,334.1		1,037.7		154.2		21,319.9	
		0.017		0.042		0.022		0.261		0.018		0.003		0.362
AZ151	6,025.3		20,182.0		9,111.8		30,628.3		73,985.3		4,471.8		144,402.5	
		0.102		0.343		0.155		0.521		1.257		0.076		2.454
AZ152	609.7		1,683.6		802.4		975.1		5,678.9		5,551.2		13,301.0	
		0.010		0.029		0.014		0.017		0.065		0.094		0.226
AZ161	2,047.9		4,016.3		2,204.7		11,856.8		8,398.4		771.0		29,275.1	
		0.035		0.068		0.037		0.201		0.143		0.013		0.498
AZ162	12,563.5		9,916.7		7,380.3		9,568.5		67,032.6		925.2		107,186.6	
		0.210		0.169		0.125		0.163		1.139		0.016		1.822
AZ163	1,115.0		1,397.9		827.2		716.2		1,757.9		462.6		6,276.7	
		0.019		0.024		0.014		0.012		0.030		0.008		0.107
AZ211	411.9		450.2		279.7		749.7		1,710.4		462.6		4,064.5	
		0.007		0.008		0.005		0.013		0.029		0.008		0.069
AZ212	659.3		995.6		584.7		1,655.2		3,167.1		616.8		7,658.6	
		0.011		0.017		0.010		0.028		0.054		0.010		0.130
AZ221	125.6		114.2		78.8		44.6		598.1		462.6		1,421.9	
		0.002		0.002		0.001		0.001		0.010		0.008		0.024
AZ222	61.6		82.4		52.0		13.7		18.5		308.4		536.5	
		0.001		0.001		0.001		0.000		0.000		0.005		0.009
AZ223	61.7		70.5		45.8		8.9		56.6		308.4		549.9	
		0.001		0.001		0.001		0.000		0.001		0.005		0.009
AZ224	61.7		69.7		42.3		90.9		248.7		462.6		975.9	
		0.001		0.001		0.001		0.002		0.004		0.008		0.017
AZ225	72.0		83.4		50.5		71.1		316.8		616.8		1,210.7	
		0.001		0.001		0.001		0.001		0.005		0.010		0.021
AZ226	61.7		56.8		39.3		8.9		62.2		462.6		691.6	
		0.001		0.001		0.001		0.000		0.001		0.008		0.012
AZ227	376.2		535.8		395.2		254.7		1,605.6		462.6		3,828.2	
		0.010		0.009		0.007		0.004		0.027		0.008		0.065
AZ511	45,530.7		15,419.6		19,041.7		17,832.2		43,307.2		2,158.8		141,264.2	
		0.759		0.262		0.324		0.303		0.736		0.037		2.401

ID	CDR	CSM	CPT	CSP	CDR	CIM	TOTAL
	% RCY	% RCY	% RCY	% RCY	% RCY	% RCY	% RCY
A2411	7,270.3	10,529.2	8,625.5	8,523.2	19,150.9	1,542.0	61,637.3
	0.124	0.181	0.147	0.145	0.325	0.026	1.048
A2421	18,840.6	33,445.3	17,527.0	9,462.5	36,611.8	2,004.6	115,947.6
	0.287	0.568	0.298	0.161	0.622	0.034	1.971
	401,597.5	961,265.7	555,365.5	689,568.7	1,855,287.5	55,466.0	4,998,550.7
	15.358	16.338	9.439	11.720	31.499	0.603	84.958

OTHER RECURRING COSTS -- CSE.....	557,096.0	9.469
CSW.....	170,800.0	2.903
CJG.....	157,119.9	2.670
CFL.....	0.	0.
CAC.....	0.	0.
COO.....	0.	0.
TEST STATION/TEST DRAWER (CSM).....	0.	0.
TEST STATION/TEST DRAWER (CPT).....	0.	0.
CDR OVERHAUL.....	0.	0.
TOTAL RCY.....	5,883,566.5	100.000

NON-RECURRING COST ELEMENTS

ID	ESME		CPP		EEME		TOTAL	
		% NRC		% NRC		% NRC		% NRC
AA111	541,986	0.219	4,140,000	2.649	50	0.000	4,682,037	2.868
AA112	107,787	0.069	828,000	0.530	50	0.000	935,857	0.599
AA113	885,122	0.566	2,484,000	1.590	50	0.000	3,369,173	2.156
AA121	3,130,757	2.003	4,968,000	3.179	50	0.000	8,098,808	5.185
AC111	69,922	0.043	873,208	0.559	50	0.000	943,182	0.604
AC112	102,562	0.066	1,303,106	0.834	50	0.000	1,405,719	0.900
AC113	95,545	0.061	415,524	0.266	50	0.000	510,920	0.327
AC114	111,795	0.073	456,986	0.291	50	0.000	568,832	0.364
AC211	43,776	0.028	399,344	0.256	50	0.000	443,171	0.284
AC212	22,105	0.014	414,000	0.265	50	0.000	436,155	0.279
AC511	12,671	0.008	178,268	0.114	50	0.000	190,990	0.122
AC512	6,983	0.004	74,520	0.048	50	0.000	81,553	0.052
AC521	66,340	0.042	379,306	0.243	50	0.000	445,697	0.285
AC522	2,202	0.001	57,960	0.037	50	0.000	60,212	0.039
AC523	1,080	0.001	13,910	0.009	50	0.000	15,041	0.010
AC531	1,877	0.001	54,399	0.035	50	0.000	56,328	0.036
AC532	8,573	0.005	79,488	0.051	50	0.000	87,912	0.056
AC533	9,052	0.006	222,814	0.143	50	0.000	231,918	0.148
AC534	1,507	0.001	11,012	0.007	50	0.000	12,570	0.008
AC611	2,356	0.002	50,176	0.032	50	0.000	52,584	0.034
AC612	822	0.001	25,502	0.016	50	0.000	26,375	0.017
AC613	666	0.000	16,560	0.011	50	0.000	17,277	0.011
AC511	8,741	0.006	219,751	0.141	50	0.000	228,543	0.146
AC611	258,541	0.153	662,400	0.424	50	0.000	900,992	0.577

ID	CSPI		CPP		CIMI		TOTAL	
		% NMC		% NMC		% NMC		% NMC
AC012	1,057	0.001	17,139	0.011	$0	0.000	18,248	0.012
AI111	50,286	0.019	176,708	0.112	$0	0.000	205,065	0.131
AI112	6,936	0.003	66,605	0.042	$0	0.000	71,592	0.046
AI113	90,656	0.058	340,225	0.218	$0	0.000	430,910	0.276
AI114	7,522	0.005	26,247	0.017	$0	0.000	33,821	0.022
AI121	21,242	0.014	171,147	0.110	$0	0.000	192,441	0.123
AM111	24,842	0.016	662,400	0.424	$0	0.000	687,292	0.440
AM112	36,774	0.024	662,400	0.424	$0	0.000	699,225	0.447
AM113	27,443	0.018	421,534	0.270	$0	0.000	449,029	0.287
AM121	2,103,570	1.346	4,560,789	2.919	$0	0.000	6,664,611	4.265
AM211	5,784	0.004	373,014	0.239	$0	0.000	378,869	0.242
AM212	302	0.000	9,770	0.006	$0	0.000	10,125	0.006
AM213	491	0.000	24,840	0.016	$0	0.000	25,382	0.016
AM214	7,286	0.005	82,551	0.053	$0	0.000	89,888	0.058
AN111	1,877	0.001	24,840	0.016	$0	0.000	26,768	0.017
AN121	70,483	0.045	472,574	0.302	$0	0.000	542,907	0.347
AN122	3,710	0.002	57,960	0.037	$0	0.000	61,720	0.039
AN131	15,285	0.010	142,995	0.092	$0	0.000	158,332	0.101
AN132	2,316	0.001	74,520	0.048	$0	0.000	76,887	0.049
AN211	72,339	0.046	182,656	0.117	$0	0.000	255,046	0.163
AN212	8,277	0.005	65,694	0.042	$0	0.000	73,823	0.047
AN213	42,533	0.027	356,454	0.228	$0	0.000	399,038	0.255
AN221	111,926	0.072	472,574	0.302	$0	0.000	584,351	0.374
AN222	3,023	0.002	76,424	0.049	$0	0.000	79,498	0.051
AN311	406,810	0.260	2,242,638	1.435	$0	0.000	2,649,498	1.696
AN312	73,890	0.047	1,202,670	0.770	$0	0.000	1,276,611	0.817

ID	CSPI		CPP		CIMI		TOTAL	
		% NMC		% NMC		% NMC		% NMC
AN515	117,855	0.075	1,410,580	0.905	50	0.000	1,528,486	0.978
AN516	47,045	0.030	506,404	0.324	50	0.000	553,498	0.354
AN515	2,021	0.001	50,139	0.019	50	0.000	52,210	0.021
AN521	77,615	0.050	1,042,617	0.667	50	0.000	1,120,283	0.717
AN522	2,650	0.002	35,604	0.023	50	0.000	38,304	0.025
AN531	2,155,004	1.379	4,457,705	2.853	50	0.000	6,613,418	4.232
AZ111	75,667	0.048	3,484,800	2.230	659	0.000	3,561,126	2.279
AZ112	109,671	0.070	2,368,080	1.515	50	0.000	2,477,802	1.586
AZ121	666,145	0.425	2,898,000	1.855	811	0.001	3,562,956	2.280
AZ122	372,338	0.238	2,005,760	1.282	50	0.000	2,376,149	1.521
AZ131	645,701	0.413	7,666,560	4.906	1,670	0.001	8,313,732	5.320
AZ132	51,724	0.033	2,003,760	1.282	1,825	0.001	2,057,310	1.317
AZ141	249,231	0.159	2,350,240	1.632	253	0.000	2,799,725	1.792
AZ142	265,118	0.170	455,400	0.291	304	0.000	720,822	0.461
AZ143	16,460	0.011	182,160	0.117	152	0.000	198,772	0.127
AZ211	51,967	0.033	491,832	0.315	152	0.000	543,952	0.348
AZ212	109,388	0.070	1,584,000	1.014	202	0.000	1,693,591	1.084
AZ221	5,924	0.003	91,080	0.058	152	0.000	95,156	0.061
AZ222	992	0.001	36,432	0.023	101	0.000	37,526	0.024
AZ223	564	0.000	36,432	0.023	101	0.000	37,098	0.024
AZ224	6,285	0.004	414,000	0.265	152	0.000	420,617	0.269
AZ225	7,612	0.005	491,832	0.315	202	0.000	499,647	0.320
AZ226	564	0.000	36,432	0.023	152	0.000	37,149	0.024
AZ227	12,655	0.008	81,972	0.052	152	0.000	94,759	0.061
AZ511	331,353	0.212	10,216,800	6.538	709	0.000	10,548,863	6.751
AZ411	160,376	0.103	5,263,200	3.368	507	0.000	5,424,083	3.471

ID	CSPI		CPM		CIMI		TOTAL	
		% NRC		% NRC		% NRC		% NRC
AZ423	501,120	0.196	9,158,400	5.861	659	0.000	9,462,179	6.055
	14,290,702	9.145	90,288,859	57.779	11,865	0.007	104,591,205	66.931

OTHER NON-RECURRING COSTS --			
	CPTI.....	0	0.
	CDMI.....	23,656,140	15.136
	CSEI.....	17,697,180	11.325
	CSWI.....	1,997,711	1.278
	CJGI.....	2,094,959	1.341
	CFAI.....	0	0.
	CRD.....	6,210,000	3.974
	CPM.....	0	0.
	SPRTS.....	39,075	0.025
	WNMC.....	0	0.
	TOTAL NRC.....	156,206,262	100.000

REPORT NO. 6 -- RELIABILITY, MAINTAINABILITY, AND AVAILABILITY OF SUBSYSTEM

OUTPUT FILE - OAST COST DATA MARK ETHEUREFICALE

SUBSYS	REMOVE	MTTR		MTBF/EFH		MAM/EFH		AVAIL	SUBSYSTEM LCC CONTRIBUTION	
		FLIGHT	SHOP	FLIGHT	SHOP	FLIGHT	SHOP		FLIGHT	SHOP
AA110	57.60	5.186	2.707	158.669	72.590	270.058	127.662	0.878?2	5.777.581.2	12.884.470.9
AA120	56.00	5.925	6.096	176.271	120.471	355.600	217.232	0.85159	4.065.191.5	14.910.680.1
AC110	51.00	1.886	2.412	56.756	67.297	65.746	88.897	0.96638	616.762.7	6.151.509.3
AC210	74.80	2.288	2.011	30.592	26.885	59.521	50.550	0.97052	509.851.9	1.949.043.0
AC310	504.60	2.675	0.958	6.612	2.569	7.526	5.692	0.99363	108.252.4	646.085.5
AC410	62.90	2.097	5.516	33.340	55.897	40.151	104.872	0.96776	526.526.3	2.464.209.5
AC510	525.10	2.535	0.660	2.116	2.011	10.566	3.761	0.99745	175.301.4	506.029.6
AC610	144.60	2.556	0.735	14.412	6.915	27.620	7.191	0.98579	158.228.6	110.636.4
AC710	687.70	2.050	1.514	5.154	2.538	6.649	4.568	0.99688	67.565.6	167.067.1
AC810	120.70	1.502	0.561	12.462	2.828	17.644	2.955	0.98771	241.255.7	1.825.950.6
AC910	56.10	1.151	0.572	55.807	6.636	80.711	7.089	0.96716	1.049.590.0	1.801.256.9
AD120	850.00	5.692	0.969	5.629	1.396	9.249	1.396	0.99460	126.875.6	659.225.5
AD130	115.90	1.885	1.218	16.535	10.690	26.695	19.822	0.98571	155.859.0	2.470.750.8
AD140	57.80	5.996	5.957	69.161	68.108	136.995	139.274	0.93553	1.877.587.8	21.397.985.3
AD210	1261.40	6.090	0.853	4.828	0.676	9.656	1.046	0.99520	178.612.8	662.667.8
AD310	1031.90	3.325	0.502	5.222	0.487	5.968	0.487	0.99679	60.671.0	114.480.8
AD410	67.90	2.125	2.515	33.781	39.988	39.814	77.910	0.96752	509.255.3	2.108.079.6
AD510	119.00	1.836	0.695	15.633	5.841	25.755	10.986	0.98480	312.344.6	364.120.3
AD610	54.40	1.600	2.525	29.605	42.765	60.908	82.676	0.97143	537.814.0	2.789.512.6
AD710	110.50	1.410	0.617	12.760	5.587	17.591	8.638	0.98240	259.156.4	1.577.715.3
AD810	57.40	5.265	2.881	161.515	77.025	158.065	146.148	0.87618	2.408.785.2	10.604.316.8
AD920	136.00	4.174	3.296	30.692	24.236	60.539	60.259	0.97022	538.872.1	2.521.499.8
AD150	52.50	5.965	5.592	122.136	105.004	165.127	179.605	0.89116	2.384.883.7	14.560.051.0
AE120	1051.70	2.074	2.508	1.016	1.130	1.270	2.155	0.99899	41.578.2	6.273.276.2
AE210	25.10	2.070	2.959	28.317	40.201	36.976	72.926	0.97240	550.671.5	10.295.567.8
AE350	168.30	1.952	5.561	11.558	19.969	15.568	34.558	0.98877	219.829.0	13.061.450.1
AE360	102.00	2.440	1.658	24.516	16.259	32.076	22.613	0.97626	506.640.5	5.715.825.9
AE410	1266.50	2.019	1.706	1.594	1.594	2.148	2.269	0.99841	34.468.6	2.660.010.6
AE420	1261.10	1.991	1.205	1.576	0.954	2.089	1.653	0.99861	107.209.6	1.467.246.1
AE510	60.80	2.017	0.543	49.926	15.167	84.353	25.726	0.95265	1.193.225.1	12.020.527.9
AE610	269.90	2.756	4.208	11.028	16.857	14.944	29.483	0.98909	232.406.5	6.395.883.8
AE640	105.70	2.590	3.654	24.976	35.256	34.503	58.689	0.97561	517.222.5	11.510.265.1

REPORT NO. 7

MANHOUR COSTS PER YEAR OF ASSETS AND SUBSYSTEMS SUPPORTED

OUTPUT FILE = UAES LOGT DATA BANK EINEGUBEEEAL1

ANNUAL BASE FLYING HOURS (AUFMI) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (DFF) = 60.00%

ASSET	SUBSYS	LOADED LABOR RATE ($/MH)	DIRECT MANHRS PER FLIGHTLINE (MANH N.M)	TOTAL LABOR PER FLIGHTLINE (MHR N.M)	DIRECT MANHRS SHOP (MANH N.M)	TOTAL LABOR SHOP (MHR N.M)	TOTAL LABOR	TOTAL COST
52251		7.026771						
	6A110		0.	0.	0.05527	2387.726	2387.726	25,535.2
	6A120		0.	0.	0.09674	4179.219	4179.219	43,195.6
	6A130		0.	0.	0.00911	394.508	394.508	5,888.6
	6A140		0.	0.	0.05117	2210.375	2210.375	23,787.2
	6A210		0.	0.	0.00063	27.318	27.318	269.3
	6A220		0.	0.	0.00305	131.805	131.805	1,299.2
	6A550		0.	0.	0.06908	2984.404	2984.404	29,416.6
	total		0.	0.	0.28508	12315.353	12315.353	121,589.6
52252		11.521771						
	6A110		0.	0.	0.07259	3127.264	3127.264	44,881.6
	6A120		0.	0.	0.12047	5204.329	5204.329	74,691.3
	6A130		0.	0.	0.01069	461.808	461.808	6,627.8
	6A140		0.	0.	0.06851	2962.271	2962.271	42,526.8
	6A210		0.	0.	0.00063	27.318	27.318	392.1
	6A220		0.	0.	0.00559	241.565	241.565	3,464.0
	6A550		0.	0.	0.07702	3327.676	3327.676	47,755.1
	total		0.	0.	0.35490	15351.829	15351.829	220,058.9

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - BASE COST DATA BANK (FIGURE8FIGAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NUF) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE ($/MAN HR)	DIRECT MMH/FH FLIGHTLINE (FMMH M/M)	TOTAL LABOR FLIGHTLINE (MHRF M/M)	DIRECT MMH/FH SHOP (SMMH M/M)	TOTAL LABOR SHOP (MHRS M/M)	TOTAL LABOR	TOTAL COST
1681A		7.026771						
	AA110		0.	0.	0.00923	398.919	398.919	3932.05
	AA120		0.	0.	0.01818	785.376	785.376	7741.27
	AC110		0.	0.	0.00489	211.206	211.206	2081.81
	AC210		0.	0.	0.00359	155.058	155.058	1528.37
	AC510		0.	0.	0.00035	15.113	15.113	148.96
	AC520		0.	0.	0.00575	248.609	248.609	2450.69
	AC550		0.	0.	0.00026	11.184	11.184	110.24
	AC610		0.	0.	0.00064	27.693	27.693	272.96
	AC650		0.	0.	0.00059	25.624	25.624	252.57
	AT610		0.	0.	0.00193	83.487	83.487	822.91
	AE110		0.	0.	0.00180	77.591	77.591	764.79
	AM210		0.	0.	0.00009	4.049	4.049	39.91
	AN520		0.	0.	0.00626	270.587	270.587	2667.14
	AN550		0.	0.	0.00264	114.186	114.186	1125.50
	AN210		0.	0.	0.00707	305.565	305.565	3011.68
	AN510		0.	0.	0.00915	395.268	395.268	3896.07
	AZ160		0.	0.	0.00028	11.969	11.969	117.98
	AZ210		0.	0.	0.00020	8.622	8.622	84.99
	AZ220		0.	0.	0.00019	8.028	8.028	79.13
	TOTAL		0.	0.	0.07510	3158.112	3158.112	31128.79

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - BASE COST DATA BASE (INCLUDES ECAC)

ANNUAL BASE FLYING HOURS (AUTH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (LDFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE ($/MH)	DIRECT MANHRS/FH FLIGHTLINE (SMMH N.M)	TOTAL LABOR FLIGHTLINE (MUNF N.M)	DIRECT MANHRS/FH SHOP (SMMH N.M)	TOTAL LABOR $/FH SHOP (MUNS N.M)	TOTAL LABOR	TOTAL COST
51654		11,521771						
	AA110		0.	0.	0.00925	$98.919	$98.919	$725.19
	AA120		0.	0.	0.01816	785.376	785.376	$11271.56
	AC110		0.	0.	0.00489	211.206	211.206	$031.18
	AC210		0.	0.	0.00359	155.058	155.058	2225.36
	AC510		0.	0.	0.00055	15.115	15.115	216.89
	AC520		0.	0.	0.00575	248.609	248.609	$567.99
	AC550		0.	0.	0.00026	11.184	11.184	160.51
	AC610		0.	0.	0.00064	27.695	27.695	$97.44
	AC510		0.	0.	0.00059	25.624	25.624	$67.75
	AC610		0.	0.	0.00195	83.487	83.487	1198.18
	AE110		0.	0.	0.00180	77.591	77.591	1113.56
	AM210		0.	0.	0.00009	4.049	4.049	58.11
	AN120		0.	0.	0.00626	270.587	270.587	3883.41
	AN130		0.	0.	0.00264	114.186	114.186	1638.77
	AN210		0.	0.	0.00707	305.545	305.545	4385.11
	AN350		0.	0.	0.00915	395.268	395.268	5672.80
	AZ140		0.	0.	0.00028	11.969	11.969	171.78
	AZ210		0.	0.	0.00020	8.622	8.622	123.74
	AZ220		0.	0.	0.00019	8.028	8.028	115.21
	TOTAL		0.	0.	0.07310	$158.112	$158.112	45524.50

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE = DAES COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (AUFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH $/M)	TOTAL LABOR FLIGHTLINE (HURS $/M)	DIRECT MMH/FH SHOP (SMMH $/M)	TOTAL LABOR SHOP (HURS $/M)	TOTAL LABOR	TOTAL COST
32650		7.026771						
	AA110		0.	0.	0.00156	66.359	66.359	656.09
	AE110		0.	0.	0.00059	25.489	25.489	251.24
	AE120		0.	0.	0.00037	15.788	15.788	155.62
	AM110		0.	0.	0.00155	66.799	66.799	658.42
	AM120		0.	0.	0.00705	304.411	304.411	3000.50
	AN110		0.	0.	0.00015	6.626	6.626	65.31
	AN210		0.	0.	0.00020	8.735	8.735	86.10
	AN220		0.	0.	0.00374	161.580	161.580	1592.65
	AN310		0.	0.	0.00259	112.101	112.101	1104.95
	AN320		0.	0.	0.00375	161.851	161.851	1595.33
	AN330		0.	0.	0.00846	365.649	365.649	3604.11
	AZ110		0.	0.	0.00024	10.301	10.301	101.54
	AZ120		0.	0.	0.00694	299.989	299.989	2956.92
	AZ130		0.	0.	0.00321	138.707	138.707	1367.20
	AZ140		0.	0.	0.00216	93.160	93.160	918.25
	AZ220		0.	0.	0.00001	0.609	0.609	6.00
	AZ310		0.	0.	0.00261	112.595	112.595	1109.83
	AZ410		0.	0.	0.00067	28.980	28.980	285.65
	AZ420		0.	0.	0.00156	66.620	66.620	656.66
	TOTAL		0.	0.	0.04737	2046.348	2046.348	20170.58

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - DAIS COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M/M)	TOTAL LABOR FLIGHTLINE (MURF M/M)	DIRECT MMH/FH SHOP (SMMH M/M)	TOTAL LABOR SHOP (MURS M/M)	TOTAL LABOR	TOTAL COST
32650		11.521771						
	AA110		0.	0.	0.00154	66.359	66.359	952.37
	AI110		0.	0.	0.00059	25.489	25.489	365.81
	AI120		0.	0.	0.00037	15.788	15.788	226.59
	AM110		0.	0.	0.00155	66.799	66.799	958.68
	AM120		0.	0.	0.00705	304.411	304.411	4368.83
	AN110		0.	0.	0.00030	12.780	12.780	183.42
	AN210		0.	0.	0.00020	8.735	8.735	125.37
	AN220		0.	0.	0.00374	161.580	161.580	2318.96
	AN510		0.	0.	0.00259	112.101	112.101	1608.84
	AN520		0.	0.	0.00375	161.851	161.851	2322.84
	AN550		0.	0.	0.00846	365.649	365.649	5247.70
	AZ110		0.	0.	0.00024	10.301	10.301	147.84
	AZ120		0.	0.	0.00694	299.989	299.989	4305.37
	AZ150		0.	0.	0.00321	138.707	138.707	1990.69
	AZ160		0.	0.	0.00216	93.160	93.160	1337.00
	AZ220		0.	0.	0.00001	0.609	0.609	8.74
	AZ510		0.	0.	0.00261	112.595	112.595	1615.94
	AZ610		0.	0.	0.00067	28.980	28.980	415.91
	AZ620		0.	0.	0.00154	66.620	66.620	956.12
	TOTAL		0.	0.	0.04751	2052.502	2052.502	29457.04

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - BASE COST DATA DATA (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25770.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M/M)	TOTAL LABOR FLIGHTLINE (MUNF M/M)	DIRECT MMH/FH SHOP (SMMH M/M)	TOTAL LABOR SHOP (MUNS M/M)	TOTAL LABOR	TOTAL COST
32651		7.026771						
	AE110		0.	0.	0.00045	19.559	19.559	192.79
	AN320		0.	0.	0.02216	957.318	957.318	9436.07
	AN330		0.	0.	0.07460	3222.747	3222.747	31765.86
	AZ110		0.	0.	0.00102	44.280	44.280	436.45
	AZ120		0.	0.	0.03273	1413.757	1413.757	13935.08
	AZ130		0.	0.	0.01439	621.603	621.603	6126.99
	AZ140		0.	0.	0.00635	274.485	274.485	2705.54
	AZ210		0.	0.	0.00087	37.796	37.796	372.54
	AZ220		0.	0.	0.00050	21.561	21.561	212.53
	AZ310		0.	0.	0.01038	448.295	448.295	4418.74
	AZ410		0.	0.	0.01265	546.318	546.318	5384.93
	AZ420		0.	0.	0.02345	1013.167	1013.167	9986.56
	TOTAL		0.	0.	0.19956	8620.886	8620.886	84974.10
32651		11.521771						
	AE110		0.	0.	0.00664	286.691	286.691	4,114.5
	AE120		0.	0.	0.00140	60.289	60.289	865.3
	AN110		0.	0.	0.00049	21.033	21.033	301.9
	AN320		0.	0.	0.02410	1041.088	1041.088	14,941.5
	AN330		0.	0.	0.10500	4536.187	4536.187	65,102.3
	AZ110		0.	0.	0.00113	48.830	48.830	700.8
	AZ120		0.	0.	0.04020	1736.664	1736.664	24,924.2
	AZ130		0.	0.	0.01997	862.665	862.665	12,380.8
	AZ140		0.	0.	0.01626	702.381	702.381	10,080.4
	AZ210		0.	0.	0.00139	60.241	60.241	864.6
	AZ220		0.	0.	0.00095	41.196	41.196	591.2
	AZ310		0.	0.	0.01335	576.593	576.593	8,275.1
	AZ410		0.	0.	0.01684	727.347	727.347	10,438.7
	AZ420		0.	0.	0.03524	1522.181	1522.181	21,846.0
	TOTAL		0.	0.	0.28295	12223.586	12223.586	175,427.2

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - BASE COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (PFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (DMMH N,M)	TOTAL LABOR FLIGHTLINE (MUNI N,M)	DIRECT MMH/FH SHOP (SMMH N,M)	TOTAL LABOR SHOP (MUNS N,M)	TOTAL LABOR	TOTAL COST
32652		7.026771						
	AA110		0.12602	5444.136	0.	0.	5444.136	53,661.6
	AA120		0.15545	6715.313	0.	0.	6715.313	66,191.5
	AM120		0.06239	2695.403	0.	0.	2695.403	26,568.0
	AN510		0.11110	4799.474	0.	0.	4799.474	47,307.5
	AN550		0.09796	4231.728	0.	0.	4231.728	41,711.2
	AZ110		0.00083	35.792	0.	0.	35.792	352.8
	AZ120		0.02320	1002.287	0.	0.	1002.287	9,879.5
	AZ130		0.00909	392.630	0.	0.	392.630	3,870.1
	AZ140		0.02235	965.647	0.	0.	965.647	9,518.2
	AZ210		0.00144	62.046	0.	0.	62.046	611.6
	AZ220		0.00142	61.262	0.	0.	61.262	603.8
	AZ310		0.04502	1945.059	0.	0.	1945.059	19,172.0
	AZ410		0.01023	441.854	0.	0.	441.854	4,355.2
	AZ420		0.02305	995.641	0.	0.	995.641	9,813.8
	TOTAL		0.68956	29788.271	0.	0.	29788.271	293,616.2
32652		11.521771						
	AA110		0.13552	5759.472	0.	0.	5759.472	82,658.6
	AA120		0.16839	7274.372	0.	0.	7274.372	104,400.1
	AM120		0.06568	2837.410	0.	0.	2837.410	40,721.9
	AN510		0.03625	1566.058	0.	0.	1566.058	22,475.7
	AN550		0.05479	2366.771	0.	0.	2366.771	33,967.4
	AZ110		0.00025	10.607	0.	0.	10.607	152.2
	AZ120		0.00630	272.201	0.	0.	272.201	3,906.6
	AZ130		0.00210	90.841	0.	0.	90.841	1,303.7
	AZ140		0.00580	250.645	0.	0.	250.645	3,597.2
	AZ210		0.00040	17.100	0.	0.	17.100	245.4
	AZ220		0.00035	15.322	0.	0.	15.322	219.9
	AZ310		0.02952	1275.459	0.	0.	1275.459	18,305.1
	AZ410		0.00311	134.561	0.	0.	134.561	1,931.2
	AZ420		0.00760	328.270	0.	0.	328.270	4,711.3
	TOTAL		0.51587	22199.090	0.	0.	22199.090	318,596.5

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - DAES COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH N,M)	TOTAL LABOR FLIGHTLINE (MURF N,M)	DIRECT MMH/FH SHOP (SMMH N,M)	TOTAL LABOR SHOP (MURS N,M)	TOTAL LABOR	TOTAL COST
52850		7.026771						
	AC110		0.	0.	0.04160	1797.103	1797.103	17715.63
	AC210		0.	0.	0.02344	1012.821	1012.821	9983.14
	AC310		0.	0.	0.00132	57.153	57.153	565.34
	AC320		0.	0.	0.05397	2331.701	2331.701	22985.04
	AC330		0.	0.	0.00123	53.157	53.157	523.95
	AC410		0.	0.	0.00228	98.544	98.544	969.55
	AC510		0.	0.	0.00203	87.699	87.699	864.43
	AC610		0.	0.	0.00013	5.512	5.512	54.33
	AN120		0.	0.	0.03792	1638.193	1638.193	16147.50
	AN130		0.	0.	0.00514	222.148	222.148	2189.64
	AN210		0.	0.	0.03910	1688.977	1688.977	16647.86
	TOTAL		0.	0.	0.20817	8992.806	8992.806	88640.02
52850		11.521771						
	AC110		0.	0.	0.04730	2043.250	2043.250	29,324.3
	AC210		0.	0.	0.02688	1161.422	1161.422	16,668.5
	AC310		0.	0.	0.00237	102.335	102.335	1,468.7
	AC320		0.	0.	0.05590	2414.770	2414.770	34,656.2
	AC330		0.	0.	0.00201	86.869	86.869	1,246.7
	AC410		0.	0.	0.00491	212.310	212.310	3,047.0
	AC510		0.	0.	0.00234	101.001	101.001	1,449.5
	AC610		0.	0.	0.00283	122.155	122.155	1,753.1
	AN120		0.	0.	0.03999	1727.499	1727.499	24,792.7
	AN130		0.	0.	0.00584	252.430	252.430	3,622.8
	AN210		0.	0.	0.04211	1819.268	1819.268	26,109.7
	TOTAL		0.	0.	0.23248	10043.307	10043.307	144,159.2

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - DAIS COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M/M)	TOTAL LABOR FLIGHTLINE (MHRF M/M)	DIRECT MMH/FH SHOP (SMMH M/M)	TOTAL LABOR SHOP (MHRS M/M)	TOTAL LABOR	TOTAL COST
32651		7.026771						
	AC510		0.00283	122.057	0.	0.	122.057	1203.08
	AE110		0.05226	2256.873	0.	0.	2256.873	22245.48
	AE120		0.00514	221.845	0.	0.	221.845	2186.67
	AN110		0.00228	98.415	0.	0.	98.415	970.06
	AN120		0.02361	1019.987	0.	0.	1019.987	10053.78
	AN150		0.01375	594.083	0.	0.	594.083	5855.74
	AN210		0.02573	1111.479	0.	0.	1111.479	10955.59
	AN220		0.01095	473.050	0.	0.	473.050	4662.74
	AN320		0.02922	1262.345	0.	0.	1262.345	12442.65
	TOTAL		0.16574	7160.133	0.	0.	7160.133	70575.79
32651		11.521771						
	AC510		0.00101	43.447	0.	0.	43.447	623.54
	AE110		0.02136	921.816	0.	0.	921.816	13229.69
	AE120		0.00353	152.280	0.	0.	152.280	2185.49
	AN110		0.00128	55.378	0.	0.	55.378	794.78
	AN120		0.00984	425.269	0.	0.	425.269	6103.37
	AN150		0.00664	286.819	0.	0.	286.819	4116.36
	AN210		0.00783	338.104	0.	0.	338.104	4852.38
	AN220		0.00302	130.519	0.	0.	130.519	1873.17
	AN320		0.00838	361.879	0.	0.	361.879	5193.61
	TOTAL		0.06286	2715.511	0.	0.	2715.511	38972.39

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - DAES COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH FLIGHTLINE (FMMH M.M)	TOTAL LABOR FLIGHTLINE (MUNS M.M)	DIRECT MMH/FH SHOP (SMMH M.M)	TOTAL LABOR SHOP (MUNS M.M)	TOTAL LABOR	TOTAL COST
52855		7.026771						
	AC110		0.02944	1271.952	0.	0.	1271.952	12537.34
	AC210		0.02435	1043.095	0.	0.	1043.095	10281.55
	AC310		0.00326	140.939	0.	0.	140.939	1389.21
	AC320		0.02324	1004.156	0.	0.	1004.156	9897.74
	AC330		0.00651	281.057	0.	0.	281.057	2770.31
	AC410		0.01307	564.834	0.	0.	564.834	5567.44
	AC610		0.01079	465.930	0.	0.	465.930	4592.57
	AM110		0.01478	638.435	0.	0.	638.435	6292.90
	TOTAL		0.12524	5410.398	0.	0.	5410.398	53329.05
52855		11.521771						
	AC110		0.00846	365.464	0.	0.	365.464	5245.05
	AC210		0.00983	424.550	0.	0.	424.550	6093.04
	AC310		0.00307	132.739	0.	0.	132.739	1905.04
	AC320		0.01055	455.633	0.	0.	455.633	6539.14
	AC330		0.00282	121.871	0.	0.	121.871	1749.07
	AC410		0.01187	512.856	0.	0.	512.856	7360.59
	AC610		0.00356	153.115	0.	0.	153.115	2197.47
	AM110		0.00620	268.045	0.	0.	268.045	3846.92
	TOTAL		0.05635	2434.272	0.	0.	2434.272	34936.11

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE = BASE COST DATA BANK (FREQUENTLY)

ANNUAL BASE FLYING HOURS (AMFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 50.00%

AFSC	SUBSYS	LOADED LABOR RATE ($/MAN HR)	DIRECT MMH/FH FLIGHTLINE (MMH N,M)	TOTAL LABOR FLIGHTLINE (MHRS N,M)	DIRECT MMH/FH SHOP (SMMH N,M)	TOTAL LABOR SHOP (MHRS N,M)	TOTAL LABOR	TOTAL COST
6065F		7.026771						
	AM210		0.00467	201.719	0.00057	15.899	217.618	2145.009
	TOTAL		0.00467	201.719	0.00057	15.899	217.618	2145.009
6065I		11.521771						
	AM210		0.00467	201.719	0.00068	29.205	250.923	5514.160
	TOTAL		0.00467	201.719	0.00068	29.205	250.923	5514.160

REPORT NO. 7

MANHOUR COSTS PER YEAR BY AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - DATA COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (EFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE (LLR $)	DIRECT MMH/FH ELIGIBLE (DMMH N/M)	TOTAL LABOR ELIGIBLE (MUNT N/M)	DIRECT MMH/FH SHOP (DMMH N/M)	TOTAL LABOR SHOP (MUNT N/M)	TOTAL LABOR	TOTAL COST
42XXX		11,521/FI						
	AA110		0.00555	231,016	0.	0.	231,016	$515.49
	AA120		0.00588	254,118	0.	0.	254,118	$647.04
	AL110		0.00592	169,412	0.	0.	169,412	2431.36
	AC210		0.00267	115,508	0.	0.	115,508	1657.74
	AL510		0.00049	21,154	0.	0.	21,154	$06.47
	AC520		0.00518	137,561	0.	0.	137,561	1971.57
	AC510		0.00061	26,333	0.	0.	26,333	$77.95
	AL410		0.00134	57,756	0.	0.	57,756	825.87
	AL510		0.00031	13,340	0.	0.	13,340	191.45
	AL610		0.00166	71,582	0.	0.	71,582	1027.55
	AE110		0.00557	154,011	0.	0.	154,011	2210.55
	AE120		0.00029	12,706	0.	0.	12,706	182.35
	AM310		0.00176	75,856	0.	0.	75,856	1088.67
	AM320		0.00346	149,481	0.	0.	149,481	2145.32
	AM210		0.00016	6,850	0.	0.	6,850	98.30
	AN110		0.00019	8,575	0.	0.	8,575	120.17
	AN170		0.00318	137,561	0.	0.	137,561	1971.57
	AN150		0.00168	72,605	0.	0.	72,605	1042.01
	AN210		0.00368	158,824	0.	0.	158,824	2279.40
	AN220		0.00181	78,190	0.	0.	78,190	1122.17
	AL110		0.00555	231,016	0.	0.	231,016	5315.49
	AN570		0.00147	63,529	0.	0.	63,529	911.76
	AN550		0.00619	267,492	0.	0.	267,492	3838.99
	AZ110		0.00010	4,232	0.	0.	4,232	60.73
	AZ120		0.00274	118,194	0.	0.	118,194	1696.30
	AZ150		0.00119	51,337	0.	0.	51,337	736.78
	AZ160		0.00196	84,706	0.	0.	84,706	1215.68
	AZ210		0.00016	6,822	0.	0.	6,822	97.91
	AZ220		0.00016	6,840	0.	0.	6,840	98.17
	AZ310		0.00490	211,765	0.	0.	211,765	5039.23
	AZ410		0.00080	34,574	0.	0.	34,574	496.20
	AZ420		0.00195	83,317	0.	0.	83,317	1195.75
	TOTAL		0.07215	$115,858	0.	0.	$115,858	44718.08

REPORT NO. 7

MANHOUR COSTS PER YEAR OF AFSC'S AND SUBSYSTEMS SUPPORTED

OUTPUT FILE - BASE COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (AQFH) = 25920.00
NUMBER OF BASES (NB) = 1
PERCENT OF TOTAL LABOR DEVOTED TO DIRECT LABOR (KEFF) = 60.00%

AFSC	SUBSYS	LOADED LABOR RATE ($/MH NI)	DIRECT MANHRS FLIGHTLINE (MMH N.MI)	TOTAL LABOR FLIGHTLINE (MHR N.MI)	DIRECT MANHRS SHOP (MMH N.MI)	TOTAL LABOR SHOP (MHRS N.MI)	TOTAL LABOR	TOTAL COST
45171		11.251771						
	AA110	0.00535	231,016	0.	0.	231,016		$260.05
	AA120	0.00598	254,118	0.	0.	254,118		$586.05
	AC110	0.00392	169,412	0.	0.	169,412		$390.70
	AC210	0.00267	115,508	0.	0.	115,508		$650.02
	AC510	0.00049	21,354	0.	0.	21,354		$81.35
	AC520	0.00318	137,361	0.	0.	137,361		$958.41
	AC550	0.00061	26,333	0.	0.	26,333		$71.61
	AL410	0.00134	57,754	0.	0.	57,754		$15.01
	AL510	0.00031	13,340	0.	0.	13,340		$88.24
	AL610	0.00166	71,582	0.	0.	71,582		$10.15
	AM110	0.00357	154,011	0.	0.	154,011		$175.56
	AM120	0.00029	12,706	0.	0.	12,706		$79.30
	AM150	0.00176	75,856	0.	0.	75,856		$70.46
	AM210	0.00346	149,481	0.	0.	149,481		$109.44
	AM250	0.00016	6,850	0.	0.	6,850		$6.66
	AN110	0.00019	8,573	0.	0.	8,573		$18.16
	AN120	0.00318	137,361	0.	0.	137,361		$958.41
	AN150	0.00168	72,605	0.	0.	72,605		$24.59
	AN210	0.00368	158,824	0.	0.	158,824		$241.28
	AN220	0.00181	78,190	0.	0.	78,190		$105.40
	AN510	0.00535	231,016	0.	0.	231,016		$260.05
	AN520	0.00147	63,529	0.	0.	63,529		$96.51
	AN550	0.00619	267,492	0.	0.	267,492		$774.79
	AZ110	0.00010	4,252	0.	0.	4,252		$9.72
	AZ120	0.00274	118,196	0.	0.	118,196		$667.93
	AZ150	0.00119	51,337	0.	0.	51,337		$24.65
	AZ160	0.00196	84,706	0.	0.	84,706		$195.35
	AZ210	0.00016	6,822	0.	0.	6,822		$6.27
	AZ220	0.00016	6,840	0.	0.	6,840		$6.53
	AZ510	0.00490	211,765	0.	0.	211,765		$988.37
	AZ610	0.00080	34,574	0.	0.	34,574		$87.90
	AZ620	0.00191	83,317	0.	0.	83,317		$175.75
	TOTAL	0.07215	$115,858	0.	0.	$115,858		$5970.28

REPORT NO. 5A

SPARES REQUIREMENTS -- INVESTMENT

OUTPUT FILE = DATA COST DATA BANK (THEORETICAL)

NUMBER OF BASES (NB) = 1
ANNUAL PEAK BASE FLYING HOURS (PBFH) = 51640.00
EXPECTED HAIR ORDER (EBO) = 0.10

DEPOT REPAIR CYCLE TIME (DRCT) = 0.17 YRS.
BASE REPAIR CYCLE TIME (BRCT) = 0.15 YRS.

	SHOP SPARES		DEPOT SPARES		UNIT COST		COST OF LRU SPARES		COST OF SRU SPARES		
LRU	LRU (SPLL)	SRU (SPSS)	LRU (DPLL)	SRU (DPSS)	LRU (UCL)	SRU (UCSRU)	SHOP (CSRUSS)	DEPOT (CLRUDS)	SHOP (CSRUSS)	DEPOT (CSRUDS)	TOTAL COST
AA111	1	1	4.84852	12.17698	50000	$571.65	50,000.0	244,926.0	5,571.4	45,489.2	341,986.8
AA112	1	1	5.74966	42.76962	10000	909.09	10,000.0	57,996.6	909.1	36,881.5	107,787.2
AA113	1	1	22.36683	41.96090	30000	6285.71	30,000.0	671,004.8	6,285.7	179,852.4	885,122.9
AA121	1	1	63.79323	139.35516	60000	$157.89	60,000.0	2,627,595.6	5,157.9	440,005.8	3,110,759.3
AC111	1	1	3.08391	27.00964	10546	958.75	10,546.0	32,522.9	958.7	25,896.9	69,922.5
AC112	1	1	2.91447	30.22910	15738	1311.50	15,738.0	45,867.9	1,311.5	39,649.5	102,562.8
AC113	1	8	6.55781	5.71032	5016	5016.00	5,016.0	21,758.4	40,128.0	28,665.0	95,565.4
AC114	1	9	0.72862	9.98055	5495	5495.00	5,495.0	4,005.7	49,455.0	54,842.0	113,795.8
AC121	1	1	3.07182	30.08274	4823	285.71	4,823.0	24,461.4	285.7	14,208.8	43,778.8
AC212	2	1	0.	1.42103	5000	5000.00	10,000.0	0.	5,000.0	7,105.2	22,105.2
AC311	1	1	4.20980	2.40699	2151	269.15	2,151.0	9,063.7	807.4	647.2	12,671.3
AC312	1	1	1.87957	1.87957	900	900.00	900.0	1,691.6	2,700.0	1,691.6	6,985.2
AC321	1	1	4.05296	93.28670	4581	458.10	4,581.0	18,566.6	458.1	42,734.6	66,360.3
AC322	2	1	0.12305	1.04615	700	350.00	1,400.0	86.6	350.0	365.5	2,202.0
AC323	4	1	0.71442	0.71442	168	168.00	672.0	120.0	168.0	120.0	1,080.0
AC331	2	1	0.	0.71441	657	328.50	1,314.0	0.	328.5	235.5	1,877.8
AC332	6	1	1.15364	0.56892	960	960.00	5,760.0	1,107.5	960.0	546.2	8,373.6
AC333	5	2	0.	1.64090	2691	269.10	8,073.0	0.	538.2	461.6	9,052.8
AC334	7	2	1.16680	1.16680	133	155.00	931.0	155.2	266.0	155.2	1,507.4
AC411	1	1	1.66632	8.96211	606	75.75	606.0	997.7	75.8	677.4	2,356.8
AC412	1	5	0.	6.69503	308	44.00	308.0	0.	220.0	294.6	822.6
AC413	1	0	2.33373	0.	200	200.00	200.0	466.7	0.	0.	666.7
AC511	1	6	1.27151	6.26569	2656	221.37	2,656.0	3,376.6	1,327.0	1,385.7	8,761.3
AC611	1	0	25.81769	0.	8000	8000.00	8,000.0	230,541.5	0.	0.	238,541.5
AC612	5	1	0.55845	0.55130	207	207.00	621.0	115.6	207.0	114.1	1,057.7
AI111	1	4	11.55286	2.00256	2110	703.33	2,110.0	23,956.5	2,813.3	1,408.5	30,286.3
AI112	5	0	1.15551	0.	802	401.00	4,010.0	926.6	0.	0.	4,936.6
AI113	1	0	21.05747	0.	4109	684.83	4,109.0	86,525.2	0.	0.	90,634.2
AI114	1	2	22.27640	0.75960	317	52.83	317.0	7,061.0	105.7	39.1	7,522.7
AI121	1	0	9.27715	0.	2067	516.75	2,067.0	19,175.9	0.	0.	21,242.9
AM111	1	6	0.86217	6.63316	8000	800.00	8,000.0	6,737.6	4,800.0	5,304.9	24,842.5
AM112	1	7	2.19268	5.65723	8000	888.89	8,000.0	17,541.6	6,222.2	5,010.9	36,774.5
AM113	1	1	1.85126	9.15765	5091	1272.75	5,091.0	9,426.7	1,272.8	11,655.6	27,445.9
AN121	1	1	27.80902	83.62706	55082	6120.22	55,082.0	1,531,776.5	6,120.2	510,592.2	2,103,570.9
AM211	1	1	0.	0.61996	4505	901.00	4,505.0	0.	901.0	578.4	5,984.4
AM212	2	0	0.55972	0.	118	59.00	236.0	66.0	0.	0.	302.0
AM213	1	1	0.	0.27952	500	350.00	500.0	0.	350.0	41.9	891.9
AM214	6	1	1.01804	0.45016	997	199.40	5,982.0	1,015.0	199.4	89.8	7,286.1
AN111	1	0	5.25924	0.	500	300.00	500.0	1,577.8	0.	0.	1,877.8
AN121	1	1	5.43432	99.50451	5705	335.59	5,705.0	31,110.9	335.6	33,125.5	70,485.0
AN122	1	0	4.30026	0.	700	700.00	700.0	3,010.2	0.	0.	3,710.2

LRU	SHOP SPARES LRU (QPEL)	SHOP SPARES SRU (QPEL)	DEPOT SPARES LRU (QPEL)	DEPOT SPARES SRU (QPEL)	UNIT COST LRU (UC)	UNIT COST SRU (UCSRU)	COST OF LRU SPARES SHOP ($LRUSS)	COST OF LRU SPARES DEPOT ($LRUDS)	COST OF SRU SPARES SHOP ($SRUSS)	COST OF SRU SPARES DEPOT ($SRUDS)	TOTAL COST
AN111	1	1	0.95332	40.39826	1727	287.85	1,727.0	1,642.9	287.8	11,528.0	15,285.7
AN112	2	0	0.57569	0.	900	900.00	1,800.0	516.5	0.	0.	2,316.5
AN113	1	1	16.80687	88.91151	2206	367.67	2,206.0	37,076.0	367.7	52,689.7	72,339.4
AN114	1	4	0.	5.46462	791	791.00	791.0	0.	1,164.0	4,522.5	8,277.5
AN115	1	0	8.88001	0.	4505	4505.00	4,505.0	38,228.4	0.	0.	42,733.4
AN121	1	1	12.55985	29.29585	5705	1141.00	5,705.0	71,655.8	1,141.0	33,426.6	111,926.4
AN122	1	0	2.27579	0.	923	923.00	923.0	2,100.5	0.	0.	3,023.5
AN131	1	1	10.46712	58.07906	27085	2462.27	27,085.0	283,301.4	2,462.3	91,761.0	406,810.2
AN132	1	1	2.44926	23.56855	14575	968.33	14,575.0	35,575.5	968.3	22,822.0	73,890.9
AN133	1	1	4.59018	41.77605	17056	608.43	17,056.0	78,291.2	608.4	25,417.7	117,855.3
AN134	1	1	1.03716	1.96401	6116	2038.67	6,116.0	10,807.3	6,116.0	4,004.0	47,043.3
AN135	0	2	0.	2.65712	364	121.33	1,456.0	0.	242.7	322.4	2,021.1
AN141	1	1	2.92929	36.59525	12592	547.48	12,592.0	36,885.6	547.5	27,590.4	77,615.5
AN142	1	0	1.16782	0.	450	450.00	2,250.0	500.0	0.	0.	2,650.0
AN151	1	1	14.78095	67.15543	55837	5584.81	55,837.0	1,872,501.9	5,584.8	225,960.4	2,155,664.2
AN152	2	1	0.11176	1.60458	22000	2000.00	66,000.0	2,458.5	4,000.0	5,209.2	75,667.5
AN153	1	1	0.06529	0.78958	28600	28600.00	57,200.0	1,295.5	28,600.0	22,576.5	109,671.0
AN154	1	1	13.92607	55.69245	55000	2500.00	55,000.0	487,412.4	2,500.0	139,251.1	684,143.5
AN155	5	5	0.20097	4.18691	24200	24200.00	193,600.0	6,865.5	72,600.0	101,274.9	372,338.4
AN156	1	1	10.03857	24.52829	68400	4400.00	68,400.0	485,857.2	4,400.0	107,044.5	665,701.6
AN161	1	1	0.97560	2.50061	24200	733.76	24,200.0	23,609.4	2,155.1	1,779.8	51,724.6
AN162	1	1	44.59142	11.04786	5500	1375.00	50,800.0	84,546.6	11,826.7	62,218.2	249,231.5
AN163	1	2	2.88905	1.59279	2200	2200.00	5,500.0	243,052.8	1,375.0	15,190.8	265,118.6
AN171	6	1	1.15603	0.61678	5940	5940.00	2,200.0	6,555.9	4,400.0	5,504.1	18,460.0
AN172	5	2	1.06597	1.78976	10000	5000.00	55,660.0	6,736.2	5,940.0	5,651.8	51,968.0
AN211	2	1	0.57219	0.19567	1100	1100.00	90,000.0	10,459.7	10,000.0	8,948.8	109,388.4
AN212	1	1	0.06089	0.19499	440	440.00	2,200.0	409.4	1,100.0	215.2	3,924.8
AN213	1	0	0.18609	0.09784	440	440.00	440.0	26.8	440.0	85.8	992.6
AN214	1	0	0.16488	0.08876	440	440.00	440.0	81.9	0.	43.0	566.9
AN215	1	0	0.21006	0.11557	5000	5000.00	5,000.0	824.4	0.	441.5	6,265.7
AN216	1	0	0.18609	0.09784	5940	1980.00	5,940.0	1,247.6	0.	224.9	7,412.5
AN217	0	2	1.53018	1.45317	440	440.00	440.0	81.9	0.	43.0	564.9
AN311	1	1	6.69310	27.17485	990	990.00	7,920.0	1,297.1	1,980.0	1,458.6	12,655.7
AN411	1	1	6.20724	16.85316	55000	2750.00	55,000.0	220,872.4	2,750.0	74,730.8	331,353.2
AN421	1	1	25.75550	55.22524	17000	2125.00	17,000.0	105,523.1	2,125.0	35,728.0	160,376.1
					12000	184.62	12,000.0	284,802.0	184.6	6,133.9	303,120.5
TOTAL	148	126	475,031755	1275.90625	781671	178558.27	1,161,679.0	10,195,906.8	376,054.5	2,559,262.6	14,290,702.8

TOTAL ALL BASES..... 14,290,702.8

OTHER COSTS:

SPARE PARTS ($PRTS)..... 59,075.5

WAR RESERVE MATERIAL COST (WRMC)..... 0.

TOTAL..... 59,075.5

TOTAL CSPI..... 14,529,778.3

REPORT NO. 50

SPARES REQUIREMENTS PER YEAR -- REPLACEMENT

OUTPUT FILE - DAIS COST DATA BANK (THEORETICAL)

NUMBER OF BASES (NB) = 1
ANNUAL BASE FLYING HOURS (ABFH) = 25920.00

LRU	NHIS PROD. (PHI)	CONDEMNATION RATE LRU (PEC)	CONDEMNATION RATE SRU (PECS)	UNIT COST LRU (UC)	UNIT COST SRU (UCSRU)	COST OF SPARES LRU (LRURS)	COST OF SPARES SRU (SRURS)	TOTAL COST
AA111	0.02120	0.01	0.05	50000.00	5571.43	7,546.3	6,522.1	15,868.4
AA112	0.02510	0.01	0.05	10000.00	909.09	1,739.6	5,831.1	7,570.6
AA113	0.09680	0.01	0.05	50000.00	4285.71	20,126.1	26,969.5	47,095.6
AA121	0.17210	0.01	0.05	60000.00	5357.89	78,812.0	65,987.7	144,799.7
AC111	0.01620	0.01	0.05	10566.00	958.73	975.5	3,883.5	4,858.9
AC112	0.01720	0.01	0.05	15738.00	1311.50	1,575.8	5,945.6	7,521.4
AC113	0.02560	0.01	0.05	5016.00	5016.00	652.6	4,295.8	4,948.2
AC114	0.00630	0.01	0.05	5695.00	5695.00	120.1	8,224.7	8,344.7
AC211	0.04390	0.01	0.05	4825.00	285.71	751.7	2,150.9	2,864.6
AC212	0.	0.01	0.05	5000.00	5000.00	0.	1,065.6	1,065.6
AC311	0.19710	0.01	0.05	2153.00	269.13	271.9	97.1	368.9
AC312	0.03800	0.01	0.05	900.00	900.00	50.7	253.7	304.4
AC313	0.02950	0.01	0.05	6581.00	458.10	556.9	6,408.9	6,965.8
AC321	0.00920	0.01	0.05	700.00	550.00	2.6	54.8	57.4
AC323	0.00520	0.01	0.05	168.00	168.00	3.6	18.0	21.6
AC331	0.	0.01	0.05	657.00	526.50	0.	35.3	35.3
AC332	0.04380	0.01	0.05	960.00	960.00	33.2	81.9	115.1
AC333	0.	0.01	0.05	2691.00	269.10	0.	66.2	66.2
AC334	0.04430	0.01	0.05	133.00	133.00	4.7	23.3	27.9
AC411	0.02850	0.01	0.05	606.00	75.75	29.9	101.6	131.5
AC412	0.	0.01	0.05	308.00	44.00	0.	44.2	44.2
AC413	0.04040	0.01	0.05	200.00	200.00	14.0	0.	14.0
AC511	0.09550	0.01	0.05	2654.00	221.17	101.2	207.8	309.0
AC512	0.40250	0.01	0.05	8000.00	8000.00	6,914.9	0.	6,914.9
AC513	0.00780	0.01	0.05	207.00	207.00	3.5	17.1	20.6
AI111	0.07370	0.01	0.05	2110.00	703.33	718.5	211.2	929.7
AI112	0.00750	0.01	0.05	802.00	401.00	27.8	0.	27.8
AI113	0.13670	0.01	0.05	4109.00	684.83	2,595.2	0.	2,595.2
AI114	0.14460	0.01	0.05	317.00	52.83	211.8	5.9	217.6
AI121	0.73000	0.01	0.05	2067.00	516.75	575.2	0.	575.2
AM111	0.01110	0.01	0.05	8000.00	800.00	202.1	795.6	997.7
AM112	0.02890	0.01	0.05	8000.00	888.89	526.1	751.5	1,277.6
AM113	0.02440	0.01	0.05	5091.00	1272.75	282.7	1,748.0	2,030.6
AM121	0.16600	0.01	0.05	55082.00	6120.22	45,944.1	76,573.5	122,517.5
AM211	0.	0.01	0.05	4505.00	901.00	0.	56.7	56.7
AM212	0.08170	0.01	0.05	118.00	59.00	2.0	0.	2.0
AM213	0.	0.01	0.05	300.00	150.00	0.	6.3	6.3
AM214	0.14860	0.01	0.05	997.00	199.40	30.4	13.5	43.9
AN111	5.62800	0.01	0.05	500.00	500.00	47.5	0.	47.5
AN121	0.03970	0.01	0.05	5705.00	535.59	933.1	4,997.8	5,931.2
AN122	0.35150	0.01	0.05	700.00	700.00	90.3	0.	90.3
AN131	0.11510	0.01	0.05	1727.00	287.83	49.3	1,743.8	1,793.1

LRU	SRU PROD. (EA)	CONDEMNATION RATE LRU (EA)	CONDEMNATION RATE SRU (EA)	UNIT COST LRU ($)	UNIT COST SRU ($/SRU)	COST OF SPARES LRU ($/SRUNS)	COST OF SPARES SRU ($/SRUNS)	TOTAL COST
A1115	0.00790	0.01	0.05	980.00	909.00	15.5	0.	15.5
A1211	0.10540	0.01	0.05	2206.00	567.67	1,112.1	6,902.5	8,014.5
A1212	0.	0.01	0.05	791.00	791.00	0.	648.2	648.2
A1215	0.05580	0.01	0.05	4505.00	4505.00	1,146.6	0.	1,146.6
A1221	0.18068	0.01	0.05	5705.00	1141.00	2,149.2	5,011.0	7,162.2
A1222	0.02910	0.01	0.05	925.00	925.00	65.0	0.	65.0
A1311	0.04550	0.01	0.05	27085.00	2462.27	8,505.4	14,061.5	22,566.7
A1312	0.01060	0.01	0.05	14525.00	968.33	1,067.1	5,422.6	6,489.7
A1313	0.01900	0.01	0.05	17056.00	608.45	2,245.3	5,811.9	8,055.2
A1314	0.02160	0.01	0.05	6116.00	3058.67	926.0	600.5	1,526.5
A1315	0.	0.01	0.05	564.00	121.33	0.	48.4	48.4
A1321	0.04610	0.01	0.05	12592.00	567.48	1,106.5	4,137.7	5,244.1
A1322	0.01850	0.01	0.05	450.00	450.00	15.0	0.	15.0
A1331	0.15000	0.01	0.05	55837.00	3364.81	56,163.6	33,887.5	90,051.1
A1332	0.02640	0.01	0.05	22000.00	2000.00	75.7	481.3	555.0
A1342	0.01070	0.01	0.05	28600.00	28600.00	58.9	3,165.8	5,424.6
A1371	0.11780	0.01	0.05	35000.00	2500.00	14,619.4	20,880.5	35,499.9
A1372	0.00870	0.01	0.05	26200.00	26200.00	143.9	15,185.2	15,329.1
A1381	0.19550	0.01	0.05	68400.00	6400.00	14,522.8	16,053.5	30,626.3
A1382	0.01900	0.01	0.05	26200.00	711.76	708.1	266.9	975.1
A1441	0.05240	0.01	0.05	10800.00	10266.67	2,535.9	9,300.9	11,836.8
A1442	0.52160	0.01	0.05	5500.00	1375.00	7,290.1	2,278.2	9,568.3
A1443	0.03410	0.01	0.05	2200.00	2200.00	190.6	525.5	716.2
A2211	0.16620	0.01	0.05	5940.00	5940.00	202.0	547.7	749.7
A2212	0.15300	0.01	0.05	10000.00	5000.00	513.1	1,542.0	2,055.2
A2221	0.05440	0.01	0.05	1100.00	1100.00	12.1	32.5	44.6
A2222	0.00890	0.01	0.05	440.00	440.00	0.8	12.9	13.7
A2223	0.02720	0.01	0.05	440.00	440.00	2.5	6.5	8.9
A2224	0.02410	0.01	0.05	5000.00	5000.00	24.7	66.2	90.9
A2225	0.05070	0.01	0.05	5940.00	1980.00	57.6	53.7	71.1
A2226	0.02720	0.01	0.05	440.00	440.00	2.5	6.5	8.9
A2227	0.19150	0.01	0.05	990.00	990.00	58.9	215.8	254.7
A2311	0.05160	0.01	0.05	33000.00	2750.00	6,624.8	11,207.4	17,832.2
A2411	0.17950	0.01	0.05	17000.00	2125.00	5,165.1	5,358.1	8,523.2
A2421	0.28480	0.01	0.05	12000.00	184.62	8,542.6	919.9	9,462.5
TOTAL	6.48190	0.77	5.85	781471.00	178555.27	$85,756.1	$83,812.6	689,568.7
						TOTAL ESP (ALL BASES) --		689,568.7

REPORT NO. 9 -- SUPPORT EQUIPMENT REQUIREMENTS/COST

OUTPUT FILE - DAIS COST DATA BANK (THEORETICAL)

ANNUAL PEAK BASE FLYING HOURS (PBFH) = 51840.00
NUMBER OF BASES (NB) = 1
AVAILABLE ANNUAL OPERATING HOURS (AAOH) = 8760.00

SE ID	TEST STATION DEMAND TIME (TSDEM)	REPAIR TIME (TSDOT)	UTIL RATE (A)	# PER BASE (NSER)	UNIT COST (UCSE)	SE COST/BASE (CPUSE)	INITIAL SE SPARES COST/BASE (CSESM)	COST OF INTER-CONNECTION HARDWARE (IH)	COST OF SOFTWARE (CSU)	INVESTMENT COST (CSEI)	REPLACEMENT COST (CSE)
MxFS	0.11285	0.01567	0.56279	1	4,637,600.0	4,637,600.0	927,520.0	0.	0.	5,565,120.0	185,504.0
AnFS	0.24285	0.03656	0.93496	1	1,176,500.0	1,176,500.0	235,300.0	0.	0.	1,411,800.0	47,060.0
EnEM	0.22490	0.03500	0.86074	1	1,523,700.0	1,523,700.0	304,740.0	0.	0.	1,828,440.0	60,948.0
DFS	0.06647	0.01148	0.34326	1	2,471,800.0	2,471,800.0	494,360.0	0.	0.	2,966,160.0	98,872.0
ICTM	0.01630	0.00319	0.06120	1	1,012,900.0	1,012,900.0	202,580.0	0.	0.	1,215,480.0	40,516.0
CmFs	0.20961	0.01965	0.98375	1	3,104,900.0	3,104,900.0	620,980.0	0.	0.	3,725,880.0	124,196.0
TOTAL SHOP PECULIAR SE COSTS PER BASE.....						13,927,400.0	2,785,480.0	0.	0.	16,712,880.0	557,096.0

OTHER BASE LEVEL COSTS:

COMMON SHOP BASE SE COST (BCA).....	78,000.0	
EQUIPMENT INDEPENDENT BASE SE COST (BPA)....	388,000.0	
PECULIAR AND COMMON FLIGHTLINE SE (FLA).....	518,300.0	
TOTAL OTHER SE COSTS (OUSEC).....		984,300.0
TOTAL SE COST PER BASE.....		17,697,180.0

CSEI -- TOTAL NON-RECURRING SE COST (ALL BASES).....		17,697,180.0
CSE -- TOTAL RECURRING SE COST PER YEAR (ALL BASES).....	557,096.0	
TOTAL RECURRING SE COST OVER USAGE PERIOD OF 15 YEARS.....		8,356,440.0
SUPPORT EQUIPMENT LIFE CYCLE COST.....		26,053,620.0

REPORT NO. 10 -- COST OF TRAINING

OUTPUT FILE - DAIS COST DATA BANK (THEORETICAL)

ANNUAL BASE FLYING HOURS (ABFH) = 25920.00
NUMBER OF BASES (NB) = 1

AFSC	TTS COURSE LENGTH WEEKS (TWK)	TTS COST/ AFSC (CTTS)	OJT COST/ AFSC (COJT)	MANPOWER REQUIREMENTS (MR)	ANNUAL TURNOVER RATE (TRS)	TOTAL COST
43171	0.	0.	0.	1.62284	0.	0.
42153	0.	0.	1,307.0	1.62284	0.246	663.2
32652	0.	0.	5,939.0	11.56203	0.246	21,469.8
32632	28.40	16,672.1	0.	15.51472	0.592	190,811.0
32251	0.	0.	5,433.0	7.98533	0.246	13,564.8
32231	28.50	17,489.4	0.	6.41425	0.592	73,890.1
32650	0.	0.	3,825.0	1.06901	0.246	1,278.5
32630	29.90	20,738.7	0.	1.06581	0.592	14,558.8
3265A	0.	0.	4,251.0	1.64485	0.246	2,186.2
3263A	25.60	18,369.1	0.	1.64485	0.592	19,901.3
32833	20.60	14,433.0	0.	2.81792	0.592	26,788.6
32853	0.	0.	724.0	1.26785	0.246	286.2
32850	0.	0.	2,327.0	5.23089	0.247	3,818.0
32830	30.10	18,881.1	0.	4.68375	0.621	60,813.4
32831	19.50	13,016.3	0.	3.72924	0.676	36,049.5
32851	0.	0.	2,268.0	1.41433	0.254	1,028.6
32651	0.	0.	7,870.0	6.36635	0.246	15,665.6
32631	39.10	24,017.5	0.	4.49004	0.592	71,030.4
40451	0.	0.	4,379.0	0.12027	0.246	164.7
40431	23.20	18,705.4	0.	0.11334	0.592	1,396.4

TOTAL COST PER BASE.....	555,365.3
TOTAL CPT (ALL BASES).....	555,365.3
TOTAL RECURRING CPT (PIUP = 15 YEARS).....	8,330,479.3
NON-RECURRING INITIAL CADRE COST (CPTI).....	0.
LIFE CYCLE TRAINING COST.....	8,330,479.3

III.

NON-DAIS HISTORICAL DATA BANK
EQUIPMENT IDENTIFICATION CROSS REFERENCE LIST

NON-DAIS HISTORICAL DATA IDENTIFICATION CROSS REFERENCE LIST

*ID#	SEQ	WT	WUC	EQUIPMENT NAME	#LRUs/ #SRUs
AA110	-1		74G00	FORWARD LOOKING INFRARED DETECTING SET	3
AA110	-2		74G00	AN/AAS- 26	
AA111	-1	73.5	74GA0	INFRARED RECEIVER	14
AA112	-1	42.0	74GB0	POWER SUPPLY (FLIR)	11
AA113	-1	40.0	74GC0	OPTICAL SENSOR STABILIZATION POD	7
AA120	-1		74H00	LASER TARGET IDENTIFICATION SET	1
AA121	-1	40.0	74HA0	LASER/ELECTRO-OPTICS/GIMBAL POD	19
AA210	-1		74D00	WEAPONS CONTROL CIRCUITS	2
AA21A	-1	4.0	74DB0	WEAPONS RELEASE CIRCUITS	7
AA21B	-1	4.0	74DP0	MISSILE CONTROL SYSTEM	5
AA21B	-2		74DP0	AN/ARW- 77	
AA220	-1		74E00	WEAPONS RELEASE SYSTEM	1
AA22A	-1	10.6	74EA0	ARMAMENT STATION CONTROL UNIT	39
AA22A	-2		74EA0	C-8652/AWE	
AC110	-1		61A00	HF RADIO SET	6
AC110	-2		61A00	AN/ARC-123	
AC111	-1	13.0	61AA0	RECEIVER/TRANSMITTER (HF)	11
AC111	-2		61AA0	5821-00-842-3483 RT-822/ARC-123	
AC112	-1	23.0	61AB0	AMPLIFIER POWER SUPPLY	12
AC112	-2		61AB0	5821-00-842-3471 AM-4573/ARC-123	
AC113	-1	19.5	61BA0	ANTENNA COUPLER	1
AC113	-2		61BA0	5985-00-105-8954 CU-1402/ARC	
AC114	-1	13.5	61BC0	VARIABLE CAPACITOR	1
AC114	-2		61BC0	5821-00-932-6693 CB-17/ARC	
AC11A	-1	4.2	61AC0	CONTROL (HF)	6
AC11A	-2		61AC0	5821-00-842-3479 C-7073/ARC-123	
AC11B	-1	2.0	61BB0	ANTENNA COUPLER CONTROL	4
AC11B	-2		61BB0	5985-00-481-5009 C-6455/ARC	
AC210	-1		62A00	VHF-FM COMMUNICATIONS SET	3
AC210	-2		62A00	FM-622A	
AC211	-1	25.2	62AA0	RECEIVER/TRANSMITTER (VHF)	17
AC211	-2		62AA0	5821-00-933-8987 RT-FM-622A	
AC212	-1	2.4	62AE0	ANTENNA COUPLER	1
AC212	-2		62AE0	CU-1905/ARC	
AC21A	-1	2.0	62AD0	CONTROL (VHF)	1
AC21A	-2		62AD0	5821-00-014-6371 C-921/FM-622A	
AC310	-1		63510	DATA LINK	4
AC310	-2		63510	AN/ASW- 25	
AC311	-1	11.8	63511	CONVERTER/RECEIVER	8
AC311	-2		63511	CV-2230A/ASW-25	

* ID# = LCCIM EQUIPMENT IDENTIFICATION NUMBER
SEQ = CARD SEQUENCE NUMBER; -1 AS INDICATED BY THESE COLUMN HEADINGS, -2 CONTAINS THE NATIONAL STOCK NUMBER AND AN/ NOMENCLATURE.
WT = LRU WEIGHT IN POUNDS
WUC = WORK UNIT CODE
#LRUs = NUMBER OF LRUs IN THE SUBSYSTEM
#SRUs = NUMBER OF SRUs PER LRU

*ID	SEQ	WT	WUC	EQUIPMENT NAME		#LRUs/ #SRUs
AC312	-1	2.0	63515	MOUNT		1
AC312	-2		63515		MT-3751/ASW-25	
AC31A	-1	0.9	63512	CONTROL PANEL		1
AC31A	-2		63512		C-7100/ASW-25	
AC31B	-1	3.0	63513	DISCRETE DISPLAY TELEPANEL		1
AC31B	-2		63513		ID-1794/ASW-25	
AC320	-1		63A00	UHF RADIO SET		5
AC320	-2		63A00		AN/ARC- 51BX	
AC321	-1	27.7	63AA0	RECEIVER/TRANSMITTER (UHF)		10
AC321	-2		63AA0	5821-00-134-6239	RT-742B/ARC-51BX	
AC322	-1	1.0	63AE0	DIPLEXER		2
AC323	-1	1.1	63AL0	STANDING WAVE RATIO INDICATOR		1
AC323	-2		63AL0	5821-00-978-7867	ID-1003/ARC	
AC32A	-1	3.5	63AG0	CONTROL UNIT (UHF)		1
AC32A	-2		63AG0	5821-00-134-6237	C-8616/ARC	
AC32B	-1	1.0	63AH0	REMOTE CHANNEL INDICATOR		1
AC32B	-2		63AH0	5821-00-260-1819	ID-1752/ARC	
AC330	-1		63B00	UHF AUTOMATIC DIRECTION FINDING GROUP		5
AC330	-2		63B00		AN/ARA- 50	
AC331	-1	5.4	63BA0	RELAY AMPLIFIER		2
AC331	-2		63BA0	5826-00-059-2726	AM-3624/ARA-50	
AC332	-1	10.0	63BB0	ANTENNA (ADF)		1
AC332	-2		63BB0	5826-00-849-0055	AS-909/ARA-48	
AC333	-1	8.0	63BC0	RECEIVER (ADF)		10
AC333	-2		63BC0	5821-00-999-4590-MA	R-1286/ARR-69	
AC334	-1	1.1	63BF0	MOUNT (ADF)		1
AC33A	-1	2.0	63BE0	CONTROL BOX (ADF)		1
AC33A	-2		63BE0	5821-00-400-5934	C-1457A/ARR-40	
AC410	-1		64A00	INTERCOM SET		3
AC410	-2		64A00		AN/AIC- 26	
AC411	-1	4.0	64AA0	INTERCOM SET CONTROL		8
AC411	-2		64AA0	5831-00-179-3948	C-8187/AIC-26	
AC412	-1	2.4	64AC0	STATION INTERCOM		7
AC412	-2		64AC0	5831-00-880-2833	C-6624/AIC-25	
AC413	-1	2.6	64AG0	AUDIO RELAY ASSEMBLY		1
AC510	-1		65A00	IFF TRANSPONDER		4
AC510	-2		65A00		AN/APX- 72	
AC511	-1	15.0	65AA0	RECEIVER/TRANSMITTER (IFF)		12
AC511	-2		65AA0	5895-00-160-2198	RT-859/APX-72	
AC51A	-1	7.0	65AB0	IFF CONTROL UNIT		1
AC51A	-2		65AB0	5895-00-782-0844	C-680P/APX	
AC51B	-1	10.0	65AD0	MARK XII COMPUTER		1
AC51B	-2		65AD0		KIT-1A/TSEC	
AC51C	-1	4.0	65AF0	IFF TRANSPONDER TESTER		9
AC51C	-2		65AF0	5895-00-895-4446	TS-1843A/APX	
AC610	-1		69A00	SPEECH SECURITY SYSTEM		3
AC611	-1	15.0	69AA0	CODER/DECODER		1
AC611	-2		69AA0		KY-28/TSEC	
AC612	-1	5.0	69AC0	RELAY		1
AC612	-2		69AC0	5821-00-970-6116	RE-978/ARC	

*ID#	SEQ	WT	WUC	EQUIPMENT NAME	#LRUs/ #SRUs
AC61A	-1	2.0	69AB0	CONTROL (TSEC)	1
AC61A	-2		69AB0	5821-00-400-5934 C-7990/ARC	
AI110	-1		51A00	FLIGHT INSTRUMENTS	4
AI111	-1	2.0	51AA0	AIRCRAFT SYSTEMS INSTRUMENTS	3
AI112	-1	1.0	51AB0	COUNTING ACCELEROMETER	2
AI113	-1	2.0	51AD0	APPROACH ATTITUDE INDICATING SYSTEM	6
AI114	-1	3.0	51AE0	PITOT STATIC SYSTEM	6
AI120	-1		51B00	NAVIGATION INSTRUMENTS	1
AI121	-1	4.0	51BA0	REMOTE STANDBY ATTITUDE INDICATING SYSTEM	4
AI121	-2		51BA0	6610-00-225-7680	
AM120	-1		76L00	INFRARED TAIL WARNING	1
AM120	-2		76L00	AN/AAQ- 4	
AM121	-1	40.8	76LA0	SEARCH TRACK SCANNER	9
AM121	-2		76LA0	5865-00-489-9812	
AM130	-1		76F00	HOMING & WARNING ECM SYSTEM	6
AM130	-2		76F00	AN/APR- 36	
AM13A	-1	25.0	76FA0	PULSE ANALYZER	10
AM13A	-2		76FA0	5865-00-119-8315	
AM13B	-1	8.0	76FC0	AFT & FORWARD PREAMPLIFIER	12
AM13C	-1	4.0	76FE0	RADAR SET CONTROL	5
AM13C	-2		76FE0	5865-00-444-5157	
AM13D	-1	4.0	76FF0	RHAW INDICATOR PANEL	1
AM13D	-2		76FF0	5865-00-471-1553	
AM13E	-1	4.0	76FG0	AZIMUTH INDICATOR	1
AM13E	-2		76FG0	5865-00-111-8215	
AM13F	-1	2.0	76FK0	THREAT LIGHT ASSEMBLY	1
AM140	-1		76G00	WARNING ECM SYSTEM	1
AM140	-2		76G00	AN/APR- 37	
AM14A	-1	15.0	76GA0	RECEIVER	3
AM14A	-2		76GA0	5865-00-411-1685 R-1606/APR-37	
AM210	-1		77A00	STRIKE CAMERA SYSTEM	4
AM210	-2		77A00	KB-18A	
AM211	-1	18.8	77AA0	STRIKE CAMERA	5
AM211	-2		77AA0	6720-00-181-0990	
AM212	-1	2.0	77AB0	MOUNT	2
AM213	-1	2.0	77AC0	CAMERA BOX	2
AM214	-1	5.2	77AE0	CAMERA CONTROL,ELECTRICAL	5
AM214	-2		77AE0	6760-00-052-7996	
AN110	-1		71A00	HEADING MODE SYSTEM	6
AN111	-2		71AD0	6615-00-877-9343 TRU-2A/A	
AN111	-1	4.0	71AD0	RATE GYRO TRANSMITTER	1
AN11A	-1	12.0	71AB0	HORIZONTAL SITUATION INDICATOR	1
AN11A	-2		71AB0	6610-00-168-0272 AQU-6/A	
AN11B	-1	13.0	71AC0	ATTITUDE DIRECTOR INDICATOR	1
AN11B	-2		71AC0	6610-00-160-0052 ARU-21/A	
AN11C	-1	1.0	71AE0	RELAY AMPLIFIER	6
AN11D	-1	8.0	71AF0	FLIGHT DIRECTOR COMPUTER	4
AN11D	-2	8.0	71AF0	6610-00-433-5227 CPU-80/A	
AN11E	-1	2.0	71AH0	MODE SELECT SWITCH ASSEMBLY	1
AN120	-1		71B00	TACAN SET	3

*ID#	SEQ	WT	WUC	EQUIPMENT NAME		#LRUs/ #SRUs
AN120	-2		71B00		AN/ARN- 52	
AN121	-1	43.3	71BA0	RECEIVER/TRANSMITTER (TACAN)		17
AN121	-2		71BA0	5826-00-884-0914	RT-893/ARN-52	
AN122	-1	2.3	71BD0	ANTENNA SWITCH		1
AN122	-2		71BD0		SA-521/A	
AN12A	-1	2.0	71BC0	RADIO CONTROL		1
AN12A	-2		71BC0	5826-00-511-9051	C-7893/ARN-52	
AN130	-1		71C00	INSTRUMENT LANDING SYSTEM		4
AN130	-2		71C00		AN/ARN- 58A	
AN131	-1	8.6	71CA0	RADIO MARKER BEACON & GLIDESLOPE RECEIVER		6
AN131	-2		71CA0	5826-00-226-6030	R-844A/ARN-58A	
AN132	-1	4.0	71CD0	ANTENNA		1
AN132	-2		71CD0		AT-536/ARN	
AN13A	-1	2.0	71CC0	CONTROL BOX (ILS)		1
AN13A	-2		71CC0	5826-00-822-9214	C-3491/ARN-58	
AN13B	-1	7.6	71CF0	RADIO LOCALIZER RECEIVER		4
AN13B	-2		71CF0	5826-00-706-1389	R-843A/ARN-58	
AN210	-1		72A00	RADAR ALTIMETER SET		5
AN210	-2		72A00		AN/APN-141	
AN211	-1	4.5	72AA0	RECEIVER/TRANSMITTER (ALT)		6
AN211	-2		72AA0	5841-00-900-8080	RT-601B/APN-141	
AN212	-1	3.0	72AB0	ANTENNA SWITCHING UNIT		1
AN212	-2		72AB0	5841-00-900-8079	SA-791A/APN-141	
AN213	-1	0.2	72AC0	ANTENNA RECEIVER		1
AN213	-2		72AC0	5841-00-134-6505	AS-1233/APN-141	
AN21A	-1	2.0	72AE0	HEIGHT INDICATOR		1
AN21A	-2		72AE0	5841-00-927-4103	ID-1687/APN-141	
AN21B	-1	2.0	72AH0	LINEARIZER COUPLER		3
AN21B	-2		72AH0	5841-00-110-6262	CU-1464/APN-141	
AN220	-1		72B00	RADAR BEACON SET		2
AN220	-2		72B00		AN/APN-154	
AN221	-1	4.4	72BA0	RECEIVER/TRANSMITTER (BEACON)		5
AN221	-2		72BA0	5826-00-884-0914	RT-763/APN-154	
AN222	-1	0.3	72BD0	ANTENNA		1
AN222	-2		72BD0		AS-1739A/APN-154	
AN310	-1		73A00	FORWARD LOOKING RADAR		11
AN310	-2		73A00		AN/APQ-126	
AN311	-1	42.8	73AA0	ANTENNA/RECEIVER		11
AN311	-2		73AA0	5841-00-001-7066	AS-2272/APQ-126	
AN312	-1	37.0	73AB0	RADAR TRANSMITTER		15
AN312	-2		73AB0	5841-00-001-7075	T-1091/APQ-126	
AN313	-1	42.0	73AC0	POWER SUPPLY PROGRAMMER		28
AN313	-2		73AC0	5841-00-001-7088	PP-6130/APQ-126	
AN314	-1	40.9	73AJ0	RADAR SET MOUNT		3
AN314	-2		73AJ0	5841-00-109-6083	MT-4043/APQ-126	
AN315	-1	4.7	73AK0	BLOWER & DUCT ASSEMBLY		3
AN315	-2		73AK0	4140-00-177-0454	HD-821/A	
AN31A	-1	5.1	73AD0	AIR NAVIGATION COMPUTER		6
AN31A	-2		73AD0	5841-00-156-7356	CP-954/APQ-126	

*ID#	SEQ	WI	WUC	EQUIPMENT NAME	#LRUs/ #SRUs
AN31B	-1	20.8	73AE0	AIR NAVIGATION MULTIPLE INDICATOR	11
AN31B	-2		73AE0	5841-00-001-7091 IP-952/APQ-126	
AN31C	-1	27.3	73AF0	SWEEP GENERATOR	30
AN31C	-2		73AF0	5841-00-480-5938 SG-811/APQ-126	
AN31D	-1	1.0	73AH0	RADAR FAULT LOCATOR	1
AN31D	-2		73AH0	5841-00-135-8151 MX-8175/APQ-126	
AN31E	-1	3.1	73AL0	CONTROL SET (FLR)	3
AN31E	-2		73AL0	5841-00-442-1578 C-8255/APQ-126	
AN31F	-1	3.1	73AM0	RADAR SET CONTROL (FLR)	1
AN31F	-2		73AM0	5841-00-168-7827 C-8252/APQ-126	
AN320	-1		73C00	AIR DATA COMPUTER SYSTEM	3
AN321	-1	16.3	73CA0	AIR DATA COMPUTER	23
AN321	-2		73CA0	6610-00-335-4406-MA CP-953A/AJQ	
AN322	-1	3.0	73CH0	TOTAL TEMPERATURE PROBE	1
AN32A	-1	3.0	73CJ0	TRUE AIRSPEED INDICATOR	1
AN32A	-2		73CJ0	6610-00-491-7477	
AN330	-1		73F00	INERTIAL MEASUREMENT SET	2
AN330	-2		73F00	AN/ASN- 90	
AN331	-1	19.5	73FA0	INERTIAL MEASUREMENT UNIT	16
AN331	-2		73FA0	6605-00-022-7893 CN-1260/ASN-90	
AN33A	-1	2.0	73FC0	CONTROL (IMS)	2
AN33A	-2		73FC0	6605-00-179-2690 C-7796/ASN-90	
AN340	-1		73B00	TACTICAL BOMBING COMPUTER SYSTEM	2
AN340	-2		73B00	AN/ASN- 91	
AN34A	-1	83.0	73BA0	TACTICAL COMPUTER	32
AN34A	-2		73BA0	6605-00-489-6679 CP-952/ASN-91	
AN34B	-1	5.5	73BB0	CONTROL (TBC)	6
AN34B	-2		73BB0	6605-00-133-7629 C-7831/ASN-91	
AN350	-1		73E00	HEADS-UP DISPLAY SET	2
AN350	-2		73E00	AN/AVQ- 7	
AN35A	-1	47.5	73EA0	HEADS-UP DISPLAY UNIT	27
AN35A	-2		73EA0	6605-00-488-9524 IP-938/AVQ-7	
AN35B	-1	24.5	73EB0	SIGNAL DATA PROCESSOR	23
AN35B	-2		73EB0	6605-00-150-6499 CP-951/AVQ-7	
AN360	-1		73G00	PROJECTED MAP DISPLAY	2
AN360	-2		73G00	AN/ASN- 99	
AN36A	-1	21.0	73GA0	DISPLAY UNIT	18
AN36A	-2		73GA0	6605-00-150-6498 ID-1665/ASN-99	
AN36B	-1	18.7	73GB0	SIGNAL DATA CONVERTER	24
AN36B	-2		73GB0	6605-00-150-7072 CV-2622/ASN-99	

IV.

DAIS THEORETICAL DATA BANK
EQUIPMENT IDENTIFICATION CROSS REFERENCE LIST

DAIS THEORETICAL DATA IDENTIFICATION CROSS REFERENCE LIST

*ID#	SEQ	WT	WUC	EQUIPMENT NAME	#LRUs/ #SRUs
AA110	-1		74G00	FORWARD LOOKING INFRARED DETECTING SET	3
AA111	-1	73.5	74GA0	INFRARED RECEIVER	14
AA112	-1	42.0	74GB0	POWER SUPPLY	11
AA113	-1	40.0	74GC0	OPTICAL SENSOR STABILIZATION POD	7
AA120	-1		74H00	LASER TARGET IDENTIFICATION SET	1
AA121	-1	40.0	74HA0	LASER/ELECTRO-OPTICS/GIMBAL POD	9
AC110	-1		61A00	HF RADIO SET	4
AC111	-1	13.0	61AA0	RECEIVER/TRANSMITTER (HF)	11
AC112	-1	23.0	61AB0	AMPLIFIER POWER SUPPLY	12
AC113	-1	19.5	61BA0	ANTENNA COUPLER (HF)	1
AC114	-1	13.5	61BC0	VARIABLE CAPACITOR	1
AC210	-1		62A00	VHF FM COMMUNICATIONS SET	2
AC211	-1	25.2	62AA0	RECEIVER/TRANSMITTER (VHF)	17
AC212	-1	2.4	62AE0	ANTENNA COUPLER (VHF)	1
AC310	-1		63510	DATA LINK	2
AC311	-1	11.8	63511	CONVERTER/RECEIVER	8
AC312	-1	2.0	63515	MOUNT & ANTENNA	1
AC320	-1		63A00	UHF RADIO SET	3
AC321	-1	27.7	63AA0	RECEIVER/TRANSMITTER (UHF)	9
AC322	-1	1.0	63AE0	DIPLEXER	2
AC323	-1	1.1	63AL0	STANDING WAVE RATIO INDICATOR	1
AC330	-1		63B00	AUTOMATIC DIRECTION FINDING SET - UHF	4
AC331	-1	5.4	63BA0	RELAY AMPLIFIER	2
AC332	-1	10.0	63BB0	ANTENNA	1
AC333	-1	5.0	63BC0	RECEIVER	7
AC334	-1	1.1	63BF0	MOUNT	1
AC410	-1		64A00	INTERCOM SET	3
AC411	-1	4.0	64AA0	INTERCOM SET CONTROL	5
AC412	-1	2.4	64AC0	STATION INTERCOM	6
AC413	-1	2.6	64AC0	AUDIO RELAY ASSEMBLY	1
AC510	-1		65A00	IFF TRANSPONDER SET	1
AC511	-1	15.0	65AA0	RECEIVER/TRANSMITTER (IFF)	4
AC610	-1		69A00	SPEECH SECURITY SYSTEM	2
AC611	-1	15.0	69AA0	CODER/DECODER	1
AC612	-1	5.0	69AC0	RELAY	1
AI110	-1		51A00	FLIGHT INSTRUMENTS	4
AI111	-1	2.0	51AA0	AIRCRAFT SYSTEMS INSTRUMENTS	3
AI112	-1	1.0	51AB0	COUNTING ACCELEROMETER	2
AI113	-1	2.0	51AD0	APPROACH ATTITUDE INDICATING SYSTEM	4
AI114	-1	3.0	51AE0	PITOT STATIC SYSTEM	3

* ID# = LOCIM EQUIPMENT IDENTIFICATION NUMBER
SEQ = CARD SEQUENCE NUMBER
WT = LRU WEIGHT IN POUNDS
WUC = WORK UNIT CODE
#LRUs = NUMBER OF LRUs IN THE SUBSYSTEM
#SRUs = NUMBER OF SRUs PER LRU

*ID#	SEQ	WT	WUC	EQUIPMENT NAME	#LRUs/ #SRUs
AI142	-1	4.0	7WDB0	MAGNETIC TAPE TRANSPORT UNIT	4
AI143	-1	2.0	7WDC0	CONTROL UNIT	1
AI210	-1		7XED0	MULTIFUNCTION CONTROLS	2
AI211	-1	2.0	7XEA0	INTEGRATED MULTIFUNCTION KEYBOARD	1
AI212	-1	8.0	7XEC0	MULTIFUNCTION CONTROL PANEL	2
AI220	-1		7XF00	DEDICATED CONTROLS	7
AI221	-1	25.0	7XFA0	POWER/START-UP PANEL	1
AI222	-1	1.0	7XFB0	ARMAMENT PANEL	1
AI223	-1	1.0	7XFC0	COMMUNICATIONS PANEL	1
AI224	-1	2.0	7XFD0	ALPHA/NUMERIC ENTRY KEYBOARD	1
AI225	-1	2.0	7XFE0	MASTER MODE PANEL	3
AI226	-1	8.0	7XFF0	SENSOR CONTROLLER PANEL	1
AI227	-1	6.0	7XFG0	SENSOR CONTROLLER UNIT	1
AI310	-1		7YA00	PROCESSOR	1
AI311	-1	40.0	7YAA0	COMPUTER PROCESSOR	12
AI410	-1		7ZA00	BUS CONTROL INTERFACE UNIT	1
AI411	-1	20.0	7ZAD0	BUS CONTROL INTERFACE UNIT	8
AI420	-1		7ZB00	REMOTE TERMINAL UNIT	1
AI421	-1	10.0	7ZBA0	REMOTE TERMINAL UNIT	65

V. COST ELEMENT DESCRIPTIONS AND DATA

This section has been designed to provide a detailed description of the costs and computations involved in comparing a DAIS configuration to a non-DAIS configuration. To accomplish this task, the section will provide the following information.

1. Detailed descriptions of each of the cost levels involved in life cycle cost (LCC) (categories, subcategories, and elements).

2. Mathematical formulas used to compute the LCC for each of the cost levels.

3. Special considerations (as required) involved in the computation of LCC for each of the cost levels.

4. Sources of data used in computing LCC for each of the cost levels.

5. A summary of the LCC computation for each of the cost levels.

The three subsections in this section address the cost categories that make up LCC: nonrecurring cost (NRC), recurring cost (RC), and system disposal cost (CDP).

5.1 NONRECURRING COSTS

The category of NRC is simply described as the one time costs normally associated with research and development (R&D) and acquisition which are directly attributable to the system being evaluated. Figure 5.1 details the DAIS and non-DAIS NRCs which are the sum of research and development cost (CRD), system investment cost (CSI), and support investment cost (COI).

The $22,147,000 advantage is in favor of the non-DAIS approach. Although the difference is dominated by the subcategory cost of system investment (procurement), there are also significant differences within the subcategory of support investment cost. Specifically, there are decreases in the elements of initial spares and software acquisition costs. However, both are offset by the increase in the subcategory of R&D, the element of field and depot support equipment (SE) acquisition, and the element of maintenance manual acquisition.

The NRC elements of project management, initial maintenance training, and facilities are quantified as zero in Figure 5.1 and Section I of this report. Costs are expected in these areas, but are not definable at this point. A zero is required there for proper operation of the interactive RMCM computer program.

Category	Subcategory	Element	Non DAIS Cost ($000)	DAIS Cost ($000)	Cost Difference ($000)	% Difference
NRC – Non Recurring						
	CRD – Research & Development		5,340	6,210	+ 870	+16.3%
	CSI – System Investment					
		CPP – Procurement	67,719	90,289	+22,570	+33.3%
		CPM – Project Management	0	0	0	0.0%
	COI – Support Investment					
		CPTI – Maintenance Training	0	0	0	0.0%
		CSPI – Spares	16,742	14,330	-2,412	-14.4%
		CDRI – SE, Depot	22,176	23,636	+1,460	+6.6%
		CSEI – SE, Field	15,051	17,697	+2,646	+17.6%
		CSWI – Software Acquisition	5,317	1,997	-3,320	-62.4%
		CJCI – Maintenance Manuals	1,769	2,095	+ 326	+18.4%
		CIMI – Inventory Management	5	12	+ 7	+140.0%
		CFAI – Facilities	0	0	0	0.0%
Total NRC			134,119	156,266	+22,147	+16.5%

Figure 5.1 – Expanded nonrecurring costs.

5.1.1 Cost of Research and Development (CRD)

The subcategory of R&D costs is difficult to quantify without actual data for the particular equipment being studied. Any method chosen to arrive at costs, other than reasonable estimates based on actual procurements, would be subject to legitimate criticism. This study postulates that "off-the-shelf" systems are available for both DAIS and non-DAIS configurations. This means no substantial R&D costs are required for either configuration during acquisition. Therefore, the cost values in this subcategory reflect only the requirements of integrating the avionics subsystems into the close-air-support (CAS) aircraft.

To be realistic, Reference 6 was consulted to give an aggregated value for the A-7D R&D costs (including test and evaluation) based on actual SPO selected acquisition report (SAR) data. The total A-7D R&D cost was adjusted to the procurement cost of the original A-7D avionics equipment, relative to the total aircraft procurement cost without considering spares. The avionics equipment share of the R&D cost for the A-7D was 20.6 percent, or $48,500 per aircraft. The original A-7D avionics and total procurement costs were further adjusted to account for the additional scope and more complex avionics defined for both the DAIS and non-DAIS configurations.

Using the adjusted avionics procurement costs, the conventional avionics is found to be 28.5 percent of the total adjusted procurement cost and the DAIS avionics to be 31.8 percent of the total adjusted procurement cost. Assuming that (1) R&D costs increase proportional to procurement and (2) these costs can be prorated to avionics, the R&D per aircraft is $74,170 for conventional avionics, $86,250 for DAIS. It must be noted that these estimates are based on the A-7D total procurement of 411 aircraft as opposed to the 72 aircraft assumed for this study. Therefore, these costs probably understate an actual 72 aircraft buy. This study assumes that no appreciable software RDT&E cost was included in these A-7D cost estimates. Therefore, the direct estimate of the comparable R&D software cost is $5,317,000 for conventional avionics, and $1,998,000 for DAIS. These estimates have been included in the software acquisition cost data.

5.1.2 System Investment Costs

The subcategory of system investment is defined as hardware procurement costs and program/project management costs. Only the element of procurement costs has been quantified in this study and the element of program management cost was set to zero. The non-DAIS configuration has a $22,000,000 advantage over the DAIS configuration in hardware procurement costs.

5.1.2.1 Cost of Procurement

The cost of procurement element covers production hardware only. This cost element includes unit cost, installation cost, and integration cost. The basic cost equation is:

CPP = NB • NACB • SUM(M) (CPINT(M) + CINST (M))*	
CPP	Cost of procurement.
NB	Number of bases.
NACB	Number of aircraft per base.
CPINT(M)	Cost of production and integration per subsystem.
CINST(M)	Cost of installation per subsystem.
M	Number of subsystems.

Procurement costs of the individual avionics subsystems were obtained by aggregating the unit costs of the appropriate line replaceable units (LRUs) after adding a five percent cost of installation factor and a 10 percent integration factor. This integration cost factor accounts for interconnection cabling, provision for aircraft interface, and the subsystem level testing necessary to make the system operational. The integration factor was applied only once to redundant LRUs. The installation factor was applied to all LRUs that require mounting. The values used for the integration and installation factors are representative of those that could be used in government and industry estimating procedures. The specific subsystem costs obtained are presented in Table 5.1.

5.1.2.2 Cost of Program/Project Management

The primary purpose of this cost element is to account for government management costs. It also includes, however, those contractor management costs not included in cost of R&D, cost of procurement (hardware acquisition), or cost of support investment. Program/project management includes technical and administrative planning, organizing, directing, coordinating, controlling, and approving actions designed to accomplish overall program objectives during the acquisition phase of the equipment life cycle. Examples of these activities are configuration management, cost/schedule management, data management, contract management liaison, value engineering, quality assurance, and integrated logistics support management. The value of this cost element was set to zero in the study.

*Note that normally subscripted variables are notated in parentheses for consistency with the computer printouts in this volume.

Table 5.1 – Avionics Subsystem Procurement Cost.

ID No.	Subsystem Name	SUBSYSTEM UNIT COST Conventional	SUBSYSTEM UNIT COST DAIS	PROCUREMENT COST Conventional	PROCUREMENT COST DAIS
NAVIGATION:					
AC330	Automatic Direction Finder	4,995	4,441	5,744	5,107
AI120	Navigation Instruments	2,067	2,067	2,377	2,377
AN120	TACAN	6,547	6,405	7,531	7,366
AN130	Instrument Landing System	3,763	2,627	4,327	3,021
AN210	Radar Altimeter Set	8,889	7,302	10,222	8,397
AN220	Radar Beacon Set	6,628	6,628	7,622	7,622
AN320	Air Data Computer System	14,314	13,022	16,461	14,975
AN330	Inertial Measurement Set	57,670	53,837	71,784	61,913
	Subtotal	104,873	96,329	126,068	110,778
COMMUNICATIONS:					
AC110	HF Radio Set	47,308	36,795	60,723	42,314
AC210	VHF-FM Communications Set	10,488	9,823	12,061	11,296
AC310	Data Link	4,692	3,053	5,396	3,511
AC320	UHF Radio Set	7,182	5,449	8,259	6,266
AC410	Intercommunications Set	1,114	1,114	1,281	1,281
AC510	IFF Transponder Set	11,232	2,654	12,917	3,052
AC610	Speech Security System	8,761	8,207	10,075	9,438
	Subtotal	90,777	67,095	110,712	77,158
COUNTERMEASURES:					
AM110	Radar Homing & Warning Set	–	21,091	–	24,255
AM120	Infrared Tail Warning	55,082	55,082	63,344	63,344
AM130	Radar Homing & Warning ECM	17,373	–	19,979	–
AM140	Warning ECM	8,546	–	9,828	–
	Subtotal	81,001	76,173	93,151	87,599
AIR-GROUND-ATTACK:					
AA110	Forward Looking IR Detecting	90,000	90,000	103,500	103,500
AA120	Laser Target Identification	60,000	60,000	69,000	69,000
AA210	Weapons Control Circuits	10,700	–	12,305	–
AA220	Weapons Release System	43,898	–	50,483	–
AM210	Strike Camera System	5,920	5,920	6,808	6,808
AN310	Forward Looking Radar	105,777	65,126	121,644	74,895
AN340	Tactical Bombing Computer	107,821	–	123,994	–
	Subtotal	424,116	221,046	487,734	254,203
CONTROLS & DISPLAYS:					
AI110	Flight Instruments	7,338	7,338	8,439	8,439
AN110	Heading Mode Sytem	13,400	300	15,410	345
AN350	Heads-Up Display	53,959	–	62,053	–
AN360	Projected Map Display	36,898	–	42,433	–
AZ110	Electronic Display	–	72,600	–	81,290
AZ120	Special Purpose Display	–	59,200	–	68,080
AZ130	Display Controls	–	121,000	–	134,310
AZ210	Multifunction Controls	–	25,940	–	28,831
AZ220	Dedicated Controls	–	14,350	–	16,503
	Subtotal	111,595	241,528	128,335	337,798
CORE:					
AZ140	Mass Memory Unit	–	38,500	–	44,275
AZ310	Processor	–	132,000	–	141,901
AZ410	Bus Control Interface Unit	–	68,000	–	69,700
AZ420	Remote Terminal Unit	–	120,000	–	121,000
	Subtotal	–	358,500	–	376,876
	Total	812,362	1,060,671	946,000	1,244,412

5.1.3 Support Investment Costs

The subcategory of support investment includes all costs associated with obtaining the logistics support requirements of a weapon system. These costs reflect the initial investment for necessary supplies and services to support the new weapon system. Support investment costs consist of eight cost elements aggregated by the following equation.

COI = CPTI + CSPI + CDRI + CSEI + CSWI + CJGI + CIMI + CFAI	
CPTI	Initial maintenance personnel training.
CSPI	Spares investment.
CDRI	Initial depot support equipment.
CSEI	Base level support equipment.
CSWI	Software acquisition.
CJGI	Initial maintenance manuals.
CIMI	Initial inventory management.
CFAI	New or additional facilities.

A review of Table 5.1 reveals some significant difference between several of the DAIS and non-DAIS cost elements. The difference in total support investment cost, however, is negligible. The individual differences will be discussed as each of these cost elements is presented.

5.1.3.1 Cost of Initial Maintenance Training, CPTI

The initial maintenance personnel training cost element includes those costs incurred in setting up a training program. Contractor costs are the primary contributors in the following equation.

CPTI = CGTE + CGCM + CCIT	
CPTI	Cost of initial maintenance personnel training.
CGTE	Cost of training equipment.
CGCM	Cost of course material preparation.
CCIT	Cost of initial contractor provided training for depot and other personnel not included in those required for on and off equipment maintenance computed in the recurring cost of personnel training (CPT) element.

For this study, it was decided to account for the bulk of the training requirements by putting all the cost of training on- and off-equipment maintenance personnel within the recurring cost of personnel training (CPT) equation. The CPT equation thus accounts for the cost

of training the initial field maintenance personnel as well as training their replacements. This decision eliminates any possibility of double counting, since the cost per hour of training used as a multiplier in the CPT equation will include costs of course material preparation and training equipment replacement which would be applicable to either non-DAIS or DAIS. Therefore, a zero value was set for this NRC element for either configuration.

It should be noted that no comparative historical training cost data was readily available for this study. When considering the possibility of generating cost estimating relationships to obtain this cost element, it became apparent that training is a difficult cost to quantify for a system being introduced since it is influenced by many qualitative type variables such as training and maintenance policies, SE capability, personnel capability through former training, numbers of personnel to be trained as initial cadre, time span for training, and the cost of contracting for these services which in turn is a function of many variables including the qualifications of the writers. In spite of these difficulties, the cost of developing quality training must be determined.

This cost element should be addressed more comprehensively in future DAIS and non-DAIS cost comparisons. For this study, it was considered that the bulk of equipment is off-the-shelf and that with the commonality inherent in the DAIS concept, initial maintenance training costs should be minimal. DAIS training equipment should be largely available from previous procurements and applicable to this procurement. Air Training Command (ATC) personnel would be quite capable of preparing a suitable course and curricula with minimum contractor assistance. It is also assumed that contractor training, with the exception of peculiar equipment, would not be required for depot personnel since they would have already been qualified on this off-the-shelf equipment or the equipment would have been covered by the contractor maintenance and/or warranties.

5.1.3.2 Cost of Spares Investment, CSPI

The support investment cost of spares element accounts for three types of spares: (a) LRUs and shop replaceable units (SRUs), (b) piece-parts and material, and (c) war reserve materials. The equation to compute CSPI is as follows.

$$CSPI = NB \cdot (SUM(I)(LRUSS(I) + LRUDS(I) + SRUSS(I) + SRUDS(I)) + SPRTS) + WRMC$$

CSPI	Cost of spares investment.
NB	Number of bases.
LRUSS	Cost of LRU(I) shop spares per base.
LRUDS	Cost of LRU(I) depot pipeline spares per base.
SRUSS	Cost of SRU shop spares per base belonging to LRU(I).
SRUDS	Cost of SRU depot pipeline spares per base belonging to LRU(I).
SPRTS	Cost of initial lay-in of spare piece-parts and material.
WRMC	War reserve material cost.

The cost of LRU and SRU spares is a summation over all LRU(I)s of the cost of the spares needed in the shop and to fill the depot pipeline. The cost of lay-in of spare piece-parts refers to the initial provisioning of any assemblies and spare components not included in the SRUs to be used for maintenance replacement purposes in end-items of equipment. It is estimated as a proportion of the expected LRU unit cost (UC(I)) at the time of initial provisioning. A proportion value of 0.05 was arbitrarily selected for both configurations. War reserve material cost covers any cost of establishing or increasing stocks of material amassed in peacetime to meet wartime stock requirements. In the present study, it was set to zero because there is no reason to expect a difference between the two comparisons.

The subequations for computing the remaining terms (and the values for their constants) were adapted from those used by the LSC model [1]* for computing all LRU spares and have been extended to include SRU estimates for this study. The replacement spares terms from that model will be addressed in the nonrecurring spares cost element, CSP.

The average number of STKL(I) and STKS(I) needed as shop spares to satisfy the cost terms, LRUSS and SRUSS respectively, are computed by first assuming that the demand is a random variable with a Poisson distribution. Then, the equation requires that the number of spares in inventory be the minimum number necessary to ensure that, with the demand so distributed, the expected number of spares backordered (EBO) will be less than some user-specified quantity. The EBO chosen was 0.1 for both LRUs and SRUs. The equations used in the model to compute both stock levels, "STK__," are provided in another available document [2]. The subequations required to compute the demand rates are addressed next. Once the stock levels have been determined, the

*A number enclosed in square brackets indicates a reference listed at the end of this report.

following equation is used to compute the cost of LRU spares, where UC(I) is the expected unit cost of an LRU at the time of initial provisioning.

$$LRUSS = STKL(I) \cdot UC(I)$$

A similar equation is used to compute the cost of SRU spares (SRUSS), except that as insufficient data exists on SRU costs and failure rates, it has been assumed that each SRU in an LRU has the same cost and the same probability of failure. Thus, the following equation is derived.

$$\text{Cost of an SRU in a given LRU} = \frac{UC(I)}{NSRU(I)}$$

NSRU(I) Number of SRUs in LRU(I).

To obtain the stock levels, the model is programmed to consider the mean demand rate per base for LRUs or SRUs, LAM(I) or LAMS(I), that are required to support the peak level of aircraft activity. The peak base flying hours (PBFH) used to provide this contingency is 60 hours per month per aircraft. It also considers the pipeline times, T(I) and TS(I), per base for completing the repair of each LRU(I). The product, (LAM(I)) • (T(I)) or (LAMS(I)) • (TS(I)), represents the expected number of demands on supply for the Ith LRU or its SRUs, respectively over their average base repair pipeline times.

Values for LAM(I) and LAMS(I) are obtained from the following equations.

$$LAM(I) = \frac{(PBFH)(PS(I))}{MFHBMA(M)}$$

$$LAMS(I) = \frac{(PBFH)(PW(I))}{(MFHBMA(M))}$$

PS(I) The probability of a shop action being taken on LRU(I) belonging to the subsystem (M).

MFHBMA(M) The mean flight-hours between maintenance actions for subsystem (M) containing LRU(I).

PW(I) Probability of repairing an LRU, given that it enters the shop.

This method of calculating the demand rate for SRU(I) assumes that each LRU(I) will require only one SRU spare to perform a repair action. Values needed to compute the pipeline times, T(I) and TS(I), required to complete the repair of each LRU/SRU and return them to the base serviceable stock are given by the following equations.

$$T(I) = BRCT + \frac{PN(I)}{PS(I)} [OSTC(1-OS) + OSTO(OS) - BRCT]$$

$$TS(I) = (KSLPT)(T(I))$$

BRCT	Base repair cycle time = 0.13 years (60 days).
PN(I)/PS(I)	Proportion of shop repairs actions on LRU(I) that will require Not Repairable This Station (NRTS) action, such that it will be returned to depot for repair.
OSTC	Average order and shipping time within CONUS = 0.36 months.
OS	Fraction of total force deployed to overseas location = 0.
OSTO	Average order and shipping time to overseas locations = 0.53 months.

KSLPT is the proportion of LRU repair time (T(I)) used as an estimate of the SRU repair pipeline time = 0.5. This is an arbitrarily chosen value based on an estimate that an SRU is simpler to ship and repair than an LRU whether on-site or returned to depot. This rationale considers the likelihood that, in some instances, LRUs going to depot will be cannibalized to obtain SRUs, thus shortening the time to only that required for replacement of an SRU.

The number of LRU (DPLL(I)) and SRU (DPLS(I)) spares required to fill the depot pipeline for each base are determined to compute the cost terms, LRUDS(I) and SRUDS(I) respectively. The DPLL term is computed for each LRU(I) as a function of its probability of being a not reparable this station (PN), depot repair cycle time (DRCT), and reliability (Mean Flight Hours Between Maintenance Actions) values for a specified peak base flying hours based on the following equation.

$$DPLL(I) = (PBFH \cdot PN(I) \cdot DRCT(I))/MFHBMA(M)$$

The SRU spares calculation requires basically the same equation except that the probability of a shop bench check and repair action (PW(I)) is used in place of the PN(I) term. In other words, it was assumed that only those LRUs repaired in the shop would result in an actual SRU return to the depot.

The results of these spares calculations by LRU ID code are contained in Report No. 8A of Sections I and II. A reduction of 14.4 percent in the total cost of spares is noted for the DAIS over the non-DAIS. This reduction is attributable to the decreased number of spares needed to support the DAIS configuration. This decrease results from the improvement in reliability brought about by some LRU functions (for example, controls and displays) being transferred to higher reliability DAIS core.

5.1.3.3 Cost of Depot Support Initial, CDRI

The CDRI element includes the initial investment cost of the equipment-peculiar and associated common SE and the overhaul manuals required to supply the depot overhaul/repair sites. The equation for CDRI is as follows.

CDRI = (ND) • (CDSE)	
ND	Number of depots.
CDSE	Cost of support equipment/manuals per depot site.

The cost of initial support per depot site is obtained from the expression below.

CDSE = SUM(D) (NDSER(D) • UCDSE(D) • (1+KSED))	
NDSER	Number of depot support equipment (D) required (input).
UCDSE	Unit cost of depot support equipment (D) (input).
KSED	Proportion of depot SE unit cost used as estimate of initial sparing level for modules and parts plus overhaul maintenance manuals development and procurement.

DAIS was estimated to require one each of the LRU test stations, for a total of six. There is also one semi-automatic type of test station, such as ID code 6872C, suitable for use as SRU test stations. DAIS requires six of these SRU testers at the depot. The non-DAIS configuration was estimated to require sixteen (16) 6872C type testers to support 15 LRU type test stations. However, no LRU test stations were costed out for the non-DAIS since these were considered to be sunk costs.

Table 5.2 - Depot Support Equipment Data Inputs.

Test Station ID	Non-DAIS		DAIS	
SRU SE	NDSER	UCDSE ($000)	NDSER	UCDSE ($000)
6872C	16	1,600	6	1,600
LRU SE				
ARFTS	N/A	-	1	1,370
CMPTS	N/A	-	1	3,559
CNITM	N/A	-	1	1,667
DTS	N/A	-	1	2,816
ICTM	N/A	-	1	1,080
MWTS	N/A	-	1	5,462
Other LRU Test Stations	15	(sunk)	N/A	-

An increase in cost of $1.4M was noted for DAIS ($22.2M) over non-DAIS ($23.6M) for setting up one depot to support one deployed site. This increase is attributable to having treated the non-DAIS LRU cost stations as sunk costs. It is estimated that this quantity of depot SE could support up to three sites. This estimate is formulated on the basis of the shop SE loading factors were less than one for all test stations (see Report No. 9, Utilization Rate, in Section II), On the average, the depot test stations will be loaded to a third of the base because the base shop test station usage probability rate is greater than three times the probability of the depot repair rate.

5.1.3.4 Cost of Support Equipment Initial, CSEI

This cost element provides for all initial investment base level SE costs. The cost of acquiring the common and peculiar SE and its associated software needed for operating, testing, and repairing assigned aircraft subsystems and maintaining its SE are included. All SE costs are avionics-specific. Both hardware and software costs are included. The cost of general SE not peculiar to the repair of avionics, such as power units, check-stands, and ground handling equipment, were excluded. This nonrecurring cost of base level SE investment is obtained from the following equation.

$$CSEI = SUM(J)(NB) \cdot (CPUSE(J) + CSESM(J) + IH(J)) + CSU(J) + NB \cdot OBSEC$$

NB	Number of bases.
CPUSE	Cost per type of peculiar support equipment at each base.
CSESM	Cost of initial support equipment spare modules and spare parts for repair of shop support equipment at base level.
IH	Cost of interconnecting hardware to utilize existing automatic equpiment (J) to test new subsytems or LRUs ($0).
CSU	Cost of software to utilize existing automatic test equipment for the system ($0).
OBSEC	Other base level support equipment costs.

The operational and maintenance costs of the SE at the base level will be covered in the recurring cost of SE equation (CSE) which uses this same equation as a nucleus. The procurement of all new SE was postulated for both non-DAIS and DAIS; therefore, the IH and CSU terms in this equation are zero.

The cost per type of peculiar support equipment (J) required per base is obtained from the following.

CPUSE(J) = (NSER(J) • UCSE(J))	
NSER	Number of peculiar support equipment at each base.
UCSE	Unit cost of peculiar support equipment (input).

The SE acquisition unit cost (UCSE) values are an aggregate of two cost components: (1) the basic unit cost of the test station, and (2) the test harness hardware and/or associated software costs to interface with the various LRUs tested. No attempt was made to estimate SE development costs for either configuration other than those embedded in this UCSE value. The basic unit cost values were obtained from the "National Stock Catalog" [3]. The LRU interface hardware and software costs were based on representative F-15 values obtained from the F-15 SPO. The UCSEs used as inputs for the shop test stations required for both the non-DAIS and the DAIS are given in Table 5.3.

The number of these shop test stations (J) required (NSER(J)) is obtained in the model from the following definition and equations. Let NSER(J) = the next highest integer value of A(J), the utilization rate of the SE, and the value of A(J) is obtained from the following equation which computes the accumulated proportional requirements for SE item (J).

Table 5.3 - Shop Test Station Costs

ID Code	Equipment Name	UCSE (x1000)
	CONVENTIONAL:	
GM378	Mission & Traffic Control Test Station	506.9
HUDTS	Heads-Up Display Test Station	1,202.7
LS83A	Camera System Test Set	10.0
1803S	Control Air Data Computer Test Station	336.7
3439M	Electrical Test Set	295.2
6812M	Infrared Test Set	397.4
6850M	Communications & Nav. Aids Test Station	157.2
6863C	Navigation & Weapons Delivery Components Test Station	1,579.4
6868M	Radar Test Set	762.8
6872C	Radar Receiver-Transmitter-Modulator Test Station	1,259.5
6875C	Video Test Station	1,016.8
6876C	Indicators & Controls Test Station	488.9
6877C	Horizontal Situation Display Test Station	219.0
6891S	Homing-Warning System Test Station	698.4
6895S	Indicator-Servo System Test Station	316.7
	Total	8,947.6
	DAIS:	
ARFTS	RF Antenna Test Station	1,176.5
CMPTS	Computer Test Station	3,104.9
CNITM	Comm/Nav/ID Test Station	1,523.7
DTS	Displays Test Station	2,471.8
ICTM	Indicators & Controls Test Station	1,012.9
MWTS	Microwave Test Station	4,637.6
	Total	13,927.4

Other SE Costs (OBSEC):

Flightline SE Costs (FLA) = $1,080,000 (conventional)
$ 518,300 (DAIS)

Peculiar Base Shop SE (BPA) = $388,000

Common Base Shop SE (BCA) = $78,000

Recurring Costs:

Annual Non-Personnel Cost (MSE) = 4% SE Unit Cost

$$A(J) = ((PBFH)/AAOH) \cdot (TSDEM(J) + TSDOT(J))$$

PBFH	Peak base flying hours, on an annual basis (51,840 hours).
AAOH	Available annual operating hours (8,760 hours).
TSDEM	Test Station (J) demand time per flight-hour.
TSDOT	Test station (J) down time for repair per flight-hour.

The model computes the test station demand time per flight-hour of operation by summing across all LRUs tested by that SE (TSDEM) using the following equation.

$$TSDEM(J) = SUM(I)\ (KTR(J) \cdot PW(I) \cdot TW(I) + PK(I) \cdot TK(I) + PN(I) \cdot TN(I))/MFHBMA(M)$$

PW(I)	Probability of shop bench check & repair of LRU(I).
PK(I)	Probability of shop cannot duplicate discrepancy (CND) of LRU(I).
PN(I)	Probability of LRU(I) entering shop being sent to the depot for repair.
TW(I)	Task time for shop bench check and repair of LRU(I).
TK(I)	Task time for shop cannot duplicate discrepancy (CND) of LRU(I).
TN(I)	Task time to determine if LRU(I) will be sent to the depot for repair.
MFHBMA	Mean flight-hours between maintenance actions for subsystem (M).
KTR(J)	Proportion of shop mean time to repair of the LRUs that requires the test station (J) to be used (0.7 for automatic and semi-automatic; 0.5 for manual).

The values used for the probability and average task time variables were developed as reported for the non-DAIS [4] and for the DAIS [5]. Similarly, the test station (J) down time for repair per flight-hour is obtained from the equation below.

$$TSDOT(J) = SUM(I)(PTS(I,J) \cdot TTS(I,J) + PTD(I,J) \cdot TTD(I,J))/MFHBMA(M)$$

PTS	Probability of test station (J) requiring repair action.
PTD	Probability of test drawer requiring repair action.
TTS	Test station (J) repair time for LRU(I).
TTD	Test drawer repair time for LRU(I).
MFHBMA	Mean flight-hours between maintenance action per subsystem (M).

The values used for these variables in the model were developed as the result of an analysis reported in another document. Field data regarding test station failure, SE repair time, and LRU test and repair times were analyzed for the test stations that are presently used to repair the LRUs contained in both the non-DAIS and the DAIS architecture. In the case of the DAIS, F-15 test station data was consulted as the most similar to that projected for the mid-1980s SE. For the non-DAIS, the A-7D/F-111 test station data were used.

The value for the CSESM term was obtained for both non-DAIS and DAIS by estimating that the initial spares would cost 20 percent of their respective SE acquisition cost, CPUSE.

The term OBSEC in the basic equation accounts for all other base level SE costs computed from the expression below.

$$OBSEC = BPA + BCA + FLA$$

The values used for these terms were listed at the bottom of Table 5.3 and were obtained in the following manner.

The peculiar base shop SE (BPA) was considered to be the instruments and laboratory equipment necessary to test and repair the test stations. The procurement cost estimate was based on that spent for an F-15 allowance for supporting one shop. This SE was procured commercially and therefore would be considerably cheaper than purchasing MIL SPEC equipment. The same value of BPA was used for both the non-DAIS and the DAIS.

The additional items of common base shop SE (BCA) consist of general purpose test equipment. The total cost of BCA was estimated to be 20 percent of the BPA.

The peculiar flightline SE (FLA) was based on the recommended allowance to support the A-7D avionics systems. Items of SE not needed for the DAIS configuration, because of improved CITS, were evaluated. The unit costs were obtained from the contractor furnished equipment list for the A-7D. The cost factors used to compute the FLA costs are shown in Table 5.4.

Table 5.4 – Flightline support equipment (FLA) costs.

WUC	Equipment Name	AN/Nomenclature	Quantity Conventional	Quantity DAIS	Unit Cost (x1000)	Acquisition Cost Conventional (x1000)	Acquisition Cost DAIS (x1000)
DEH00	Angle of-Attack Transducer Test Set	---	6	6	12.2	73.1	73.1
WUP00	Accelerometer Test Harness	AN/ASM-405	3	3	1.0	3.0	3.0
WZ700	ADC System Test Set	AN/ASM-371A	3	3	6.1	18.2	18.2
WYC00	Gyroscope Test Set	AN/ASM-337	3	3	4.4	13.3	13.3
WUX00	Air Data Computer Test Set	AN/ASM-388	3	3	13.1	39.2	39.2
WUW00	Air Data Simulator	ASM/SM-565	3	3	29.8	89.5	89.5
WV800	IMU Simulator Test Set	ASM/SM-639	3	–	3.1	9.3	–
WUA00	Armament Release System Test Set	AN/AWM-49	4	4	39.5	157.9	157.9
WZ900	Armament Station Control Test Set	AN/AWM-55	1	–	342.2	342.2	–
WUB00	Armament Wiring Test Set	AN/AWM-62A	3	–	20.8	62.5	–
WX500	Interference Blanker Test Set	AN/ASM-407	2	–	12.2	24.3	–
WX300	Environmental Control System Test Set	AN/ASM-390	3	3	4.5	13.4	13.4
WX600	Short Range Boresight Test Set	AN/APM-334	4	4	27.7	110.7	110.7
WUC00	Flight Radar Test Set	AN/APM-302	3	–	41.1	123.4	–
	TOTALS		44	32	557.7	1080.0	518.3

Report No. 9 of Sections I and II provides a compilation of all the SE costs including the utilization rate for each of the SE ID numbers for both these NRCs and the recurring costs that will be addressed in the CSE equipment equation.

The nonrecurring SE costs are $17.7M for the DAIS as compared with $15.1M for the non-DAIS. This $2.6M difference is attributable to the high unit costs of the DAIS test stations.

5.1.3.5 Cost of Software Acquisition, CSWI

The cost of software acquisition (CSWI) element is determined from cost estimating relationships (CERs) for determining the software development personnel costs (SWPC) and associated computer operation cost (COC). These CERs were developed as a result of a reported study [7]. Thus, the basic equation for CSWI is:

$$CSWI = SWPC + COC$$

The CERs for these terms are the equations below.

$$SWPC = NMM \cdot CPMM$$

NMM	Number of man-months required to develop software.
CPMM	Cost per man-month.

$$COC = NCHMM \cdot CCPH \cdot NMM$$

NCHMM	Number of computer hours per man-month.
CCPH	Computer cost per hour.
NMM	Number of man-months required to develop software.

The number of man-months required to develop the software, NMM, appears in both of the CERs and is obtained from the following expression.

$$NMM = NMMKW \cdot NW/1000$$

NMMKW	Number of man-months per 1000 computer words.
NW	Number of computer words.

The CPMM input of $4,167/man-month and the CCPH input term of $200/computer hour were estimated values used for both non-DAIS and DAIS. The variable input values are shown in Table 5.5.

Table 5.5 - Input Values for Cost of Software Acquisition.

Variable	Non-DAIS	DAIS
NW Total	59,400	117,800
• OFP	16,000	63,400
• OTP	-	10,000
• Support Software	43,400	44,400
NMMKW	15.0	2.706
NCHMM	9.0	10.5

This assumes that:

1. the DAIS Operational Flight Program (OFP) executive can be used without modification, and

2. a System Specification has been generated which defines in detail the requirements of the mission software.

Given the 1980s DAIS conceptual design [6] and the applications software structure defined for the current DAIS application, the size of the required OFP applications software was estimated and reported in [7]. With a 10,000 word Operational Test Program (OTP) as suggested by Trainor [7] and a conservative estimate of 15 percent, modification to the support software, the number of words in Table 5.5 for DAIS was obtained.

Techniques for estimating acquisition cost are usually based on estimates of software size, together with programmer productivity factors developed from past projects. Estimates of DAIS software size were derived from current DAIS implementation experience, and total approximately 63,000 16-bit words of object code. The size of the executive programs (master and local) and the math routines were not included since the application of DAIS to a specific configuration does not require further development of this software. About half of the total (32,000 words) is required to process and produce the displays (primarily the IMFK). This compares with the total size of about 16,000 16-bit words for a non-DAIS configuration.

The parameters describing the current non-DAIS configuration are taken from the A-7D/E navigation and weapon delivery software to obtain the 16,000-word size of the software package. This was chosen as being representative of current non-DAIS software in that it is coded in assembly language; it is monolithic as opposed to modular in that each function is performed by sections of coding occurring throughout the program making enhancement or modification difficult; a larger percentage (99.5 percent versus 63 percent) of memory is used; the configuration and mission are similar to that defined for the 1980s conceptual DAIS design; and, the software satisfies the same general set of requirements but has fewer specific functions due to a different architecture (partitioning).

Size alone is not the determining factor in acquisition cost, however. When preliminary cost data on DAIS software development is analyzed and compared with historical data, the results are startling with an average cost per word reported for DAIS of $4.3 compared with costs of $20 to $80 reported in the literature, with real-time avionics software traditionally falling into the high end of this range.

Even when the DAIS costs are adjusted to include additional levels of design and test effort, the range of costs is still much lower, $5 to $25 per word. Although it was not possible to ascribe this improvement to a specific aspect of DAIS methodology, the combined impact of Higher Order Language (HOL) usage, DAIS support software, and the DAIS architecture standard is significant. Some perspective on this improvement can be gained by consideration of the effects of HOL use documented elsewhere. The average ratio of source-to-object for DAIS application programs is 4.7:1, which is close to the approximate 4:1 improvement in cost per word observed above.

The number of man-months required per 1000 words (productivity rate) for each configuration resulted from the reported analyses and algorithms. The number of computer hours required per man-month are based on estimates of eight hours per man of computer time required when writing support software and 12 hours per man when writing applications software. Weighting these values in terms of the type programming required resulted in the 9.0 and 10.5 hours per man-month hours of computer time needed for writing non-DAIS and DAIS programs, respectively.

The resultant software acquisition costs, CSWI, of $1,998,000 for DAIS compared to the $5,317,000 for non-DAIS is attributable to the breakdown of costs given in Table 5.6.

Table 5.6 - Software Acquisition Cost Estimates.

	Non-DAIS ($000)	DAIS ($000)
OFP	1,432	1,127
OTP	-	178
Support Software	3,885	693
TOTAL	5,317	1,998

The net effect of the changes in size and productivity is that the DAIS development cost is approximately $1.305M compared to $1.432M for the non-DAIS configuration. For the non-DAIS software, this range can be compared with costs of $1.63M to develop the OFP for the F-15, a 21,000 (32 bit) word program, and $4.44M for three additional versions of the F-15 OFP, all coded in assembly language.

A previous estimate of DAIS software cost was made by Trainor [7]. With an estimated OFP size of 29,000 words and an additional 10,000 words for OTP software, the total labor cost came to $1.212M. The impact of HOL and support software was estimated to reduce costs by 22.4 percent, yielding a revised estimate to $1.411M. This compared favorably with the estimate of $1.305M for OFP and OTP software that went into the development cost given above, but the program size is about 50 percent smaller. An additional $0.693M was included in DAIS software costs for modification of the support software to provide for new sensor and environment simulations.

Support costs for software in the F-111, F-14, F-15, and A-7D/E show a similar pattern. An initial investment of $4.5 to $10M establishes a facility for maintenance support (except for the F-14 where the development facility was used). Government personnel are used to staff the facility and perform verification and validation of changes which are implemented with contractor support. Recurring costs for these activities range from $1M to $2M per year as noted in the CSE cost element. One benefit of the DAIS program has been to develop government-owned suppport software which can become GFE for both development and support of future non-DAIS, as well as DAIS applications. Historically, support software was not purchased by the government as part of system development, but was a significant factor in the investment for a support facility. This approach was taken in estimating support costs for the conventional avionics software and a one-time cost of $3.885M was included for support software development.

One final observation is that the DAIS software estimates assume that a totally new OFP is developed for each application. A potential DAIS benefit not recognized by this assumption is that the standardization of language and architecture might make possible reuse of portions of DAIS OFPs developed for other missions and other configurations. This concept, while feasible, remains to be tested by the current DAIS demonstration effort.

5.1.3.6 Cost of Maintenance Manuals Initial, CJGI

This cost element represents those maintenance manuals required for organizational (flightline) and intermediate (shop) level maintenance of the avionics suite. Thus, the cost equation used for this equation is:

CJGI = (1 + FJG) • SUM(M)(CFJG(M) + CSJG(M))	
CFJG	Cost of flightline manuals, maintenance portion, per subsystem (M).
CSJG	Cost of shop manuals, maintenance portion, per subsystem (M).
FJG	Proportion, as a function of the maintenance manuals or job guide type manuals, representing the general material found in that type manual (0.25).

The maintenance portions included both the troubleshooting requirements, which cover fault identification and malfunction isolation, and the non-troubleshooting requirements of a subsystem, which cover the remove and replace, repair and preventive maintenance type actions. The general material costs, represented by the fixed fractional adder, FJG, includes the costs of cover sheets, table of contents, indices, and safety requirements, as well as the costs of the operating manual.

The bottom line costs presented include the complete developmental array of costs such as the engineering research for the maintenance requirements, technical writing, typing, graphics designing, validation, verification, and the initial microfiche. For the 29 non-DAIS avionics subsystems, the initial cost of maintenance manuals totaled $1,769,000. For the 32 DAIS avionics subsystems, the initial cost totaled $2,095,000. Comparing individual common subsystem costs between the two avionics suites reveals that maintenance manuals for some non-DAIS subsystems are more expensive than those for the comparable DAIS subsystem, and vice versa. This is because the costs are proportional to subsystem complexity. While manuals for the DAIS are generally more expensive, given equal equipment complexity, many of the non-DAIS control and display LRUs have been removed to the core elements of the DAIS, thus reducing the complexity for those subsystems.

The 18 percent increase in maintenance manual costs for DAIS subsystems is primarily due to the assumption that current conventional maintenance manuals would be used in non-DAIS application whereas the newer job guide or proceduralized manuals would be used in DAIS applications. As determined in a recent industry survey, the cost of preparing and writing job guide manuals on a page by page basis is considerably greater than that for conventional maintenance manuals. This is due to the fact that much of the maintenance knowledge requirements that have in the past been taught in formal schools are written into the job guides, thus requiring increased engineering study and attention to detail.

5.1.3.7 Cost of Inventory Management Initial, CIMI

The introduction of a new weapon system into the Air Force inventory initiates a sizable logistics management effort aimed at its initial and on-going operational support maintenance. A major portion of this effort is concerned with the stocking, control, and supply of spare parts. These spare parts also become part of the Air Force inventory. Their management plays a critical and costly role in determining the operational effectiveness of the system, although this cost element may not constitute a large dollar cost.

The cost of spares inventory management element is defined as an initial cost for inventory accession (nonrecurring) and an annual recurring cost which includes such things as storage, packaging, distribution, shipping, and record keeping. Also included are the cost of supplies and personnel salaries needed to perform these tasks. The

RC of inventory management will be included separately as the CIMI cost element. The equation for computing the NRC of inventory management is:

CIMI = (IMC) • SUM(I)(NNII(I))	
IMC	Initial management cost to introduce a new line item of supply (assembly or piece parts) into the Air Force inventory (input).
NNII	Number of new inventory items within each LRU(I).

The NNII term for each LRU(I) is obtained from the expression below.

NNII(I) = 1 + PA(I) + PP(I)	
PA	Number of new P coded repairable assemblies within the LRU.
PP	Number of new P coded consumable items within the LRU.

This study relied heavily on the use of standard USAF cost factors which are based on historical data. The IMC term has a value of $50.71/item based on a documented report [1]. Each configuration would have comparable costs since off-the-shelf items are postulated, and few new parts should enter the inventory. The PA and PP terms were assigned on the basis of the number of SRUs contained in the LRU rather than piece-parts. This was based on the premise that the piece-parts for either avionics configuration would be similar and in the inventory. Then, the PP term was set to zero, since the SRUs are not consumable items. Using this rationale, the CIMI values obtained were $5,000 for non-DAIS, increasing to $12,000 for DAIS.

5.1.3.8 Cost of New or Additional Facilities, CFAI

The cost of new or additional facilities (CFAI) element provides for the construction, conversion, or expansion of any necessary facilities required to house or support the various services needed by a new weapon system. These services would include those required in the operation or support of the aircraft, its subsystems, and SE. The types of facilities included are: training, utilities, real estate, roads, and base maintenance shops. Also included should be any nonproduction industrial and test facilities and equipment required.

5.2 RECURRING COSTS

The category of RC reflects those costs generated during the operation and support phase of the weapon system life cycle. Specifically, this covers all ownership costs including operation, maintenance, and logistics support costs.

The RCs are computed on an annual basis (RCY) as the sum of the operation (CO) and support cost (CS) contributions. Then, the RC total is obtained from the following equation.

$$RC = (PIUP) \cdot (RCY)$$

PIUP	Planned inventory usage period.
RCY	Recurring cost per year in constant year dollars.

5.2.1 Operation Costs, CO

The cost of operations subcategory consists of two principal cost elements: (a) operations personnel (including aircrew), and (b) fuel. These two cost elements are independent of the avionics architecture and have been set to zero in this study.

5.2.2 Support Costs, CS

The support costs subcategory includes the cost of the personnel, equipment, spares, material, and supply needed to support the deployed units. The type of support required by the weapon system includes organizational level maintenance personnel and equipment, as well as fully equipped and staffed intermediate and depot level maintenance facilities. The cost elements included in the recurring cost of supporting the weapon system operation are given in the equation below.

$$CS = COM + CSM + CPT + CSP + CDR + CSE + CSW + CJG + CIM$$

COM	Cost of on-equipment maintenance.
CSM	Cost of intermediate shop maintenance.
CPT	Cost of maintenance personnel training.
CSP	Cost of replacement spares.
CDR	Cost of depot maintenance.
CSE	Cost of maintaining support equipment.
CSW	Cost of supporting the software.
CJG	Cost of supporting maintenance manuals.
CIM	Cost of inventory management.

Figure 5.2 details the DAIS and non-DAIS recurring costs. The $33,209,000 advantage of DAIS over the non-DAIS is substantial and represents a 27.3 percent savings over the PIUP of 15 years. This breakdown shows that there are elements that have considerable cost impact that are only partially offset by others. Specifically, the large reductions in cost for DAIS are contributed by the cost of on-equipment maintenance, intermediate maintenance, personnel training, replacement spares, depot maintenance, and software support which total $35,483,000. This is only slightly offset by the increase in cost for SE of $1,603,000 for the DAIS configuration. Each of the specific elements contained in the cost of support equation will be addressed further in this section. The cause for these cost differences will also be noted.

5.2.2.1 Cost of On-Equipment Maintenance, COM

The COM element accounts for the cost of manpower and material needed to perform the flightline scheduled and unscheduled on-equipment maintenance of unit aircraft, such as organizational level maintenance. The basic equation for determining the annual cost of on-equipment maintenance is provided in Figure 5.2.

COM = NB • SUM(N)(MURF(N) • (LLR(N) + BMR(N))	
NB	Number of bases.
MURF	Labor utilization rate, such as number of active maintenance manhours (MMH) by the Air Force Skill Category, AFSC(N), specific subsystems for flightline tasks.
LLR	Loaded labor rate for AFSC(N).
BMR	Base consumable material consumption cost rate per manhour for repairing LRUs by work center employing AFSC(N).

This same equation is used to compute the cost of intermediate shop maintenance element, CSM, by substituting shop maintenance personnel requirements (MURS) for the MURF term.

The BMR cost term includes minor items of supply (nuts, washers, rags, cleaning fluid, and so forth) which are consumed during repair of items. A BMR of $2.83/manhour was used for both non-DAIS and DAIS based on a value obtained from an avionics field repair site. This is comparable to the $2.28 hour for any type of repair [1].

The MURF term is the actual number of active maintenance manhours required for flightline maintenance obtained from the expression below.

Category	Subcategory	Element	Non-DAIS Cost ($000)	DAIS Cost ($000)	Cost Difference ($000)	% Difference
RC–Recurring (for PIUP=15 years)						
	CO–Operation					
		CFL–Fuel	0	0	0	0.0%
		COP–Personnel				
		CAC–Aircrew	0	0	0	0.0%
		COO–Other Operations	0	0	0	0.0%
	CS–Support					
		COM–On-Equipment Maintenance	26,682	13,554	-13,128	-49.2%
		CSM–Intermediate Maintenance	22,856	14,419	-8,437	-36.4%
		CPT–Training	13,152	8,330	-4,822	-36.7%
		CSP–Spares	11,824	10,344	-1,480	12.5%
		CDR–Depot Maintenance	33,767	27,799	-5,968	-17.7%
		CSE–Support Equipment	6,753	8,356	+1,603	+23.7%
		CSW–Software	4,209	2,562	-1,647	-39.1%
		CJG–Maintenance Manuals	1,990	2,357	+ 367	+18.4%
		CIM–Inventory Management	229	532	+ 303	+132.7%
Total RC			121,462	88,253	-33,209	-27.3%

Figure 5.2 -- Expanded recurring costs.

MURF(N) = SUM(M) (ABFH • FMMH(N,M))/EFF	
ABFH	Annual base flying hours (25,920 hours).
FMMH	Flightline maintenance manhours per flight-hour for the AFSC(N) responsible for the maintenance of subsystem (M).
EFF	Percentage of maintenance manhours devoted to direct labor (0.6).

The annual base flying hour scenario of 25,920 hours is obtained from the equation:

AFH = NACB • FHACM • 12	
NACB	Number of aircraft per base (72).
FHACM	Average flight-hours per aircraft per month (30).
12	Number of months per year.

The FMMH term is the direct manhours required per flight-hour to perform all of the unscheduled flightline maintenance. This value, when divided by the percentage of maintenance manhours devoted to DL (EFF), provides the total active maintenance manhours per flight-hour for each AFSC. The EFF value of 0.6 used in the model is the direct-to-indirect labor utilization factor recommended [9] as the current Air Force, AFM 26-3, standard.

The FMMH values are obtained from the R&M portion of the RMCM computer program which computes manhours for each AFSC assigned to maintain each subsystem (M). This is accomplished by summing, across all required tasks, the product of the average time to accomplish that task and its probability of occurrence. These task values were obtained by a maintenance analysis of the DAIS and conventional avionics suites selected to satisfy the CAS mission. First, a maintenance analysis was conducted on conventional avionics equipment using a partitioning of the R&M characteristics, then an estimate of R&M characteristic values of DAIS in the mid-1980s was developed and reported [5]. Outputs from this historical (conventional avionics) and theoretical (mid-1980s DAIS) analysis are then input to the RMCM [2]. The RMCM determines the manpower resources consumed per flying hour in terms of manhours based on the elapsed time, skills and probability of task occurrence, and also the SE and spares for both flightline and shop maintenance.

No changes in the R&M parameters due to technical advancements or reliability growth were included in the DAIS estimates.

The only changes made in the DAIS flightline R&M parameters as a result of the analyses are attributable to the potential for employment of a central integrated test sytem (CITS) through the use of

DAIS architecture. Reductions from 10 to 30 percent in the "troubleshooting cannot duplicate discrepancy (CND) task" rates, determined as a function of the subsystems complexity, were postulated. It was also estimated that average troubleshooting task times could be reduced by at least half their present values. This was accomplished by reducing the number of technicians required for the troubleshooting task from two to one, rather than changing the task times. The number of technicians assigned to the troubleshooting CND tasks were not changed, however.

Some reassignment of AFSCs was needed to ensure that their training background was compatible with the equipment design. In particular, consideration was given to the possibility that maintenance technicians may be assigned solely to the flightline or shop. Therefore, only three avionics AFSCs from the 30000 series are needed to support DAIS on the flightline and five types of AFSCs for the shop. The five for the shop include two AFSCs for avionics test station repair, 326xA and 326xB. This policy is dependent to some degree upon the BIT/CITS capabilities at the flightline and the test station capabilities in the shop. Any other apparent changes in AFSCs are attributed to the physical and functional partitioning of the equipment brought about by the DAIS design.

The 421x3 and 431x1 AFSCs used in both configurations are those assigned to handle flightline SE when performing the unscheduled avionics maintenance. No scheduled maintenance estimates were provided for either configuration since it was considered negligible for avionics.

The direct maintenance manhours (MMH) per flight-hours (FMMH) and the total labor flightline (MURF) required to support a 72 aircraft wing are shown in Tables 5.7 and 5.8 for non-DAIS and DAIS configurations, respectively. The MMH values are listed with a N/A notation under the column LLR(N) when a particular AFSC is not needed for that configuration. The total labor column values in these tables are the addition of the flightline (MURF) and the total labor shop (MURS) columns when an AFSC performs both duties.

Having determined the MMH factors for each configuration, a loaded labor rate LLR(N) per AFSC(N) common to both configurations is used in the basic equation to be added to the BMR to determine cost of equipment maintenance. This direct labor rate (DLR) has direct, indirect, and overhead components as noted in the equation on page 121.

The DLR term includes a factor, KM(N), to reduce the cost per hour rate for DL of selected skill levels (N). This factor avoids double counting by not allowing the proportion of DL manhours devoted to OJT in the case of skill level 1 and 3 AFSCs, to be charged against the tasks. (Note that the cost of on-the-job training (COJT) term in the cost of maintenance personnel training element (CPT) equation has a value assigned for those AFSC(N)s whose KM(N) value is less than unity.)

Table 5.7 – NonDAIS Manhour Costs per Year by AFSCs

AFSC ID Code	Loaded Labor Rate (LLR(N))	Direct MMH/FH Flight Line (FMMH N,M)	Total Labor Flight Line (MURF N,M)	Direct MMH/FH Shop (SMMH N,M)	Total Labor Shop (MURS N,M)	Total Labor	Total Cost
32231	7.03	0.792	34,232	0.667	28,831	63,064	621,615
32251	11.52	0.876	37,836	0.749	32,343	70,180	1,007,215
32531	7.03	0.165	7,135	0.049	2,100	9,235	91,035
32561	11.52	0.165	7,135	0.062	2,685	9,821	140,956
3263A	7.03	0	0	0.087	3,740	3,740	36,867
3265A	11.52	0	0	0.087	3,740	3,740	53,679
32638	7.03	0	0	0.127	5,466	5,466	53,884
32658	11.52	0	0	0.127	5,466	5,466	78,457
32631	N/A						
63251	N/A						
32632	N/A						
32652	N/A						
32830	7.03	0.177	7,628	0.164	7,075	14,704	144,935
32850	11.52	0.201	8,696	0.170	7,344	16,040	230,210
32831	7.03	0.153	6,627	0.142	6,113	12,740	125,583
32851	11.52	0.164	7,104	0.145	6,214	13,319	191,159
32833	7.03	0.031	1,339	0.010	414	1,754	17,291
32853	11.52	0.031	1,339	0.017	714	2,053	29,475
32834	7.03	0.042	6,112	0.143	6,182	12,296	121,208
32854	11.52	0.162	6,990	0.143	6,184	13,175	189,088
40431	7.03	0.005	210	0.001	57	267	2,635
40451	11.52	0.005	210	0.002	66	276	3,965
42152	11.52	0	0	0.0003	12	12	181
42153	11.52	0.106	4,593	0	0	4,593	65,926
43151	11.52	0.044	1,903	0	0	1,903	27,316
43171		0.106	4,593	0	0	4,593	64,823
46230	7.03	0.002	88	0.002	91	179	1,769
46250	11.52	0.002	88	0.002	91	179	2,576
53151	11.52	0	0	0.001	46	46	663

Table 5.8 -- DAIS Manhour Costs per Year by AFSCs

AFSC ID Code	Loaded Labor Rate (LLR(N)	Direct MMH/FH Flight Line (FMMH N,M)	Total Labor Flight Line (MURF N,M)	Direct MMH/FH Shop (SMMH N,M)	Total Labor Shop (MURS N,M)	Total Labor	Total Cost
32231	7.03	0	0	0.285	12,315	12,315	121,390
32261	11.52	0	0	0.365	16,331	12,321	220,039
32531	N/A						
32551	N/A						
3263A	7.03	0	0	0.073	3,168	3,168	31,129
3265A	11.52	0	0	0.073	3,168	3,168	45,325
3263B	7.03	0	0	0.047	2,046	2,046	20,170
3265B	11.52	0	0	0.048	2,052	2,052	29,457
32631	7.03	0	0	0.200	8,620	8,620	84,974
32651	11.52	0	0	0.283	12,223	12,223	175,427
32632	7.03	0.690	29,788	0	0	29,788	293,616
32652	11.52	0.514	22,199	0	0	22,199	318,596
32830	7.03	0	0	0.208	8,992	8,992	88,640
32850	11.52	0	0	0.232	10,043	10,043	144,139
32831	7.03	0.166	7,160	0	0	7,160	70,576
32851	11.52	0.063	2,715	0	0	2,715	38,972
32833	7.03	0.125	5,410	0	0	5,410	53,329
32853	11.52	0.056	2,434	0	0	2,434	34,938
32834	N/A						
32854	N/A						
40431	7.03	0.005	201	0.0004	15	217	2,145
40451	11.52	0.005	201	0.001	29	230	3,314
42152	N/A						
42153	11.52	0.072	3,115	0	0	3,115	44,718
43151	N/A						
43171	11.28	0.072	3,115	0	0	3,115	43,970
46230	N/A						
46250	N/A						
53151	N/A						

The cost values for the military personnel service per hour (CMPS) terms obtained were those which specified AFM 177-101, effective 1 October 1976, as the source ([10] - Table 20). The cost components included in these standard rates are:

1. Average basic pay
2. Basic allowance for quarters
3. Miscellaneous benefits-expenses
   - Subsistence (cash and in kind)
   - Station allowance overseas
   - Uniform allowance
   - Family separation
   - Separation payments
   - FICA
   - Death gratuities
   - Servicemen's group life insurance
   - Reenlistment bonus
   - Apprehension of military deserters
   - Interest on savings deposits
4. Special entitlements
   - Flight pay (crewmember)
   - Flight pay (noncrewmember) and other hazardous duty pay
   - Foreign and sea duty pay
   - Special pay for medical, dental, and veterinary officers
   - Proficiency pay
   - Special pay duty subject to hostile fire
   - Diving duty pay

Exclusions are:

1. Permanent change of station travel costs
2. Support of free world forces
3. Amount of BOQ forfeitures due to occupancy of government quarters
4. Retirement pay liability

LLR(N) = DLR(N) + ILR(N) + (OSCY/PMB)	
DLR	Direct labor rate per manhour (per skill category and level.
ILR	Indirect labor rate per manhour (supervisors and administrative personnel).
OSCY	Overhead support cost per man per year.
PMB	Productive (available) manhours per man per year at base level (input (1920 hours).

The DLR per manhour, DLR(N), is obtained from the following expression and is independent of the equipment being supported.

DLR(N) = KM(N) • (CMPS(N) + OPF (N))	
KM	Proportion of direct labor manhours devoted to tasks; that is, OJT:KM(N) = 1 for all AFSCs other than 1 or 3 level and KM(N) = 0.5 for all 1 or 3 level AFSC.
CMPS	Cost of military personnel services per hours.
OPF	Other personnel cost factors per manhour for skill category (N) not provided for in CMPS.

The OPF term accounts for three of these exclusions by adding the following costs.

1. A retirement benefit of 17 percent of CMPS, and

2. A 23 percent of CMPS to account for other personnel costs not included in the standard rates, each of these values as specified in Table B-1 of AFM 177-101.

3. A permanent change of station (PCS) travel allowance of $0.32/manhour calculated on values obtained from another document [10] - Table B-9] whereby the following enlisted type of moves were used as an estimate for a four-year enlistment.

One PCS move	$ 1168
General Training	371
From Basic Tech.	114
Operational Travel	1175
TOTAL	$ 2848

In 1976 dollars, the total ($2848) is $674/year or $0.32/manhour. When extracting values from these tables, a paygrade of E-3 was used for the skill levels 1 and 3 AFSCs, an average paygrade of an E-5 and E-6 was used for the skill level 5, and an E-7 paygrade was used for the 7 level skills.

The indirect labor rate (ILR) terms in the loaded labor rate equation (LLR) accounts for the supervisors and administrative personnel used to directly support the DL work force. The annual administrative and supervisory cost per man (SUPER) was derived from the A-7D Manpower Source List (MSL) data [11] shown in Table 5.9. The table indicates that, for 128 technicians, there are 49 administrative and supervisory personnel, each costing an average of $13,292 per year. Assuming that this 49:128 ratio is constant for all systems, SUPER is computed to be an average value of $5088 per technician. Then, ILR values per manhour of $2.45 for skill level 5, $2.01 for skill level 3, and $0.0 for skill level 7 personnel were obtained as follows.

ILR = (SUPER) • I(N) ÷ 2,080 manhours/year
I(N) { 1 if n is a 3 level .82 if n is a 5 level 0 otherwise (7 level)

I(N) corrects for the fact that all level 3 personnel are technicians, but 18 percent of the five levels are supervisors themselves, based on a review of the manpower source listing (MSL) for the A-7D. The 2,080 manhours per year is based on the SUPER personnel paid for 52 weeks at eight hours a day.

Table 5.9 - A-7D Manpower Source Listing (MSL) Data.

Administration:	Quantity	Rank
	2	LTC
	2	MAJ
	1	CPT
	1	CMS
	1	SMS
	2	MSG
	4	TSG
	5	SSG
	3	AIC
	21	

Supervisory:	Quantity	Rank
	1	CPT
	1	LT
	7	MSG
	12	TSG
	7	SSG
	28	

Technicians:	Quantity	Rank
	39	SSG
	31	SGT
	58	AIC
	128	

Average wage and benefit = $13,292/year

The annual overhead support cost rate per man provides for such factors as medical support ($229), base operation support ($1248), vehicular and base maintenance ($301), and hospitalization ($683. These factors are embodied in the term, OSCY, which is an annual cost per man [10] - Volume II] and must be divided by the productive (available)

manhours per man per year (PMB) to get a manhour cost rate. The PMB used is based on the expression.

$$PMB = 48 \frac{\text{work-weeks}}{\text{man-year}} \cdot \frac{40 \text{ manhours}}{\text{work-week}} = 1920 \frac{\text{manhours}}{\text{man-year}}$$

The direct maintenance manhours and their costs required to support 72 aircraft on an annual basis were computed for each AFSC. Report No. 7 in Sections I and II provides the total labor and the total cost of that labor for each AFSC and skill level broken down by the subsystems they support. When the same AFSC is used for shop as well as flightline task events, each contribution of these events is included. The bottom line of each of these reports was extracted and included as Tables 5.7 and 5.8, as previously noted. Included in these total cost values are the contribution of BMR ($2.83/hr) even though it is a consumable material rather than an actual manpower cost.

The resultant on-equipment maintenance LCC for a PIUP of 15 years is $26,682,000 for the non-DAIS and $13,554,000 for the DAIS configuration. This is an annual recurring cost of $1,778,782 for the non-DAIS and $903,597 for the DAIS as shown by subsystem contribution in Report No. 4 in Sections I and II.

This reduction in cost is attributable to the reduced manpower requirement in terms of MMH/FH for DAIS brought about by the sensor/core partitioning of R&M characteristics, coupled with its employment of CITS. No reliability improvement was provided for either configuration due to technological advances other than their inherent characteristics.

5.2.2.2 Cost of Intermediate Shop Maintenance, CSM

The CSM element accounts for the cost of manpower and material needed to perform intermediate shop maintenance. The shop maintenance includes bench check and repair of LRUs removed from the aircraft, and also the repairs of the test stations used to test those LRUs. The basic equation for determining the annual cost of intermediate shop maintenance is:

$$CSM = NB \cdot SUM(N)(MURS(N) \cdot (LLR(N) + BMR(N)))$$

NB	Number of bases.
MURS	Labor utilization rate by skill category maintaining specific group of LRUs for shop tasks.
LLR	Loaded labor rate for skill level category (N).
BMR	Base consumable material consumption cost rate for repairing LRUs by work center employing AFSC(N) ($2.83/hr).

The same BMR value of $2.83/manhour to account for consumables, as noted in the COM equation, is used for both non-DAIS and DAIS.

The same basic equation formats and constants used for computing all of the factors contained in the on-equipment maintenance (COM) cost element are used for this cost element except the terms are redesignated when necessary (for example, the labor utilization rate is designated MURS(N)). The maintenance manhour value for MURS(N) is obtained by dividing the percentage of direct labor manhours (EFF) expected per person into the product of the number of flight-hours and the shop maintenance manhours expended by an AFSC(N) per flight-hour per LRU(I), SMMH(N,I). The values for SMMH(N,I) are obtained from the R&M portion of the RMCM whose inputs are based on the same maintenance analysis discussed in the previous section. The shop direct maintenance manhours per flight-hour for the AFSC level (N) responsible for the maintenance of LRU(I) is determined in the RMCM computer program by the following equation.

$$SMMH(N,I) = H(M)\,((PW(I) \cdot TW(I) \cdot HW(I) + (PK(I) \cdot TK(I) \cdot HK(I)) + (PN(I) \cdot TN(I) \cdot HN(I) + (PTD(I) \cdot TTD(I) \cdot HTD(\cdot)) + (PTS(I) \cdot TTS(I) \cdot HTS(I))))/MFHBMA(M,I)$$

H(M)	The ratio between the number of LRUs tested in the shop and the flightline removal actions for subsystems (M).
PW	Probability of shop bench check and repair of LRU(I).
PK	Probability of shop CND condition for LRU(I).
PN	Probability of LRU(I) that the depot for repair.
PTD	Probability of a test station test drawer (J) used to test LRU(I) requiring repair action.
PTS	Probability of test station (J) used to test LRU(I) requiring repair action.
TW	Task time for shop bench check and repair of LRU(I).
TK	Task time for shop retest OK (CND) of LRU(I).
TN	Task time to determine if LRU(I) will be sent to the depot for repair (NRTS).
TTD	Test drawer repair time for LRU(I).
TTS	Test station (J) repair time for LRU(I).
HW	Number of technicians required to perform bench check and repair of the Ith LRU of a given subsystem.
HK	Number of technicians required to determine that a shop CND condition exists with respect to the Ith LRU of a given subsystem.
HN	Number of technicians required to determine that a NRTS action exists with respect to the Ith LRU of a given subsystem.
NTD	Number of technicians required to perform repair actions on the test drawer.

HTS	Number of technicians required to perform repair actions on the test station (J).
MFHBMA	Mean flight-hours between maintenance actions for subsystem (M) containing LRU(I).

The only changes made in the shop R&M parameters as a result of the maintenance analyses for DAIS are attributable to the use of CITS and consolidated SE. The DAIS shop CND rates were reduced anywhere from 10 to 30 percent by changing their probability of occurrence. Also, the sum of the shop probabilities of LRU repair were made equal to the flightline removal actions for that subsystem. These two changes are the direct result of the CITS capability coupled with any learning effect that will lessen the likelihood of multiple LRU removals on the flightline resulting in good LRUs reaching the shop. In either case, the effect would be brought about by the DAIS architecture.

In the case of the consolidated SE, no appreciable change in the shop test time was postulated; however, the number of technicians assigned to perform the shop test functions that culminate in a CND or a NRTS task action were limited to one. No change was made in the number of people (2) assigned to the LRU bench test and repair tasks, however, to allow for testing while repairing an LRU as well as for OJT.

The cost rates per AFSC and skill level (N) are the same as those used in the COM equations. The LLRs as well as the shop maintenance manhours are included in Tables 5.7 and 5.8, as previously noted.

The resultant intermediate maintenance LCC for a PIUP of 15 years is $22,856,000 for the non-DAIS and $14,419,000 for the DAIS configuration. This is an annual RC of $1,523,727 for the non-DAIS and $961,265 for the DAIS as shown by subsystem contribution in Report No. 4 in Sections I and II.

This reduction in cost is attributable to the reduced manpower requirement for DAIS (for example, MMH/1000FH) because of the sensor/core partitioning of R&M characteristics coupled with its employment of CITS and consolidated SE. No reliability improvement was provided for either configuration due to technological advances other than that caused by the reductions in CNDs for the DAIS resulting from the CITs potential.

5.2.2.3 Cost of Maintenance Personnel Training, CPT

The CPT element accounts for the cost of training the initial work force of organizational and intermediate level maintenance personnel, as well as the annual cost of training their replacements. The initial training is considered to have been received prior to the first year, therefore, attrition of personnel during the first year has been considered.

The equation for computing this cost of maintenance personnel training is:

CPT = NB • SUM(N)((1/PIUP + TRS(N)) • MU(N) • TCS(N))	
NB	Number of bases.
TRS	Annual turnover rate of airman in each skill category and level.
MU	Manpower utilization by AFSC(N).
TCS	Cost of training an airman for each skill category and level.
PIUP	Planned inventory usage period (15 years).

This basic equation computes CPT on an annual basis by first multiplying the number of AFSCs required per base MU(N) by the term (1/PIUP + TRS(N)) and then by the cost of training by each skill category and level TCS(N) before summing overall AFSCs (N) and, finally, multiplying by the number of bases (NB). The term 1/PIUP amortizes the training cost of the initial manning level over the life of the system (PIUP).

The term TRS(N) is the loss rate per year for each AFSC personnel category (N). The values for this term were obtained from extracts of a Personnel Availability Model (PAM) developed for AFHRL that used the Uniform Airmen Records (UAR) for years 1975 and 1976 as a base [12]. The same TRS values were assigned to the appropriate AFSCs for each configuration.

Manpower utilization, MU(N), in the basic equation is the average number of AFSCs of skill category and level (N) required at each base computed as follows.

MU(N) = (MURF(N) + MURS(N))/PMB	
MURF	Labor utilization rate by skill category (N) maintaining specific subsystems for flightline tasks.
MURS	Labor utilization rate by skill category maintaining specific group of LRUs for shop tasks.
PMB	Productive available manhours per man per year at base level (1920 hours).

The labor utilization rates are the total manhours expended by each AFSC(N) needed to maintain specific subsystems (M). These maintenance manhours required to perform the flightline and shop tasks, MURF and MURS, are obtained from the equations used to compute these same terms for the cost of on-equipment (COM) and cost of intermediate (shop) maintenance (CSM) elements, respectively.

The cost of training an airman for each skill category and level is obtained from the expression:

TCS(N) = CTTS(N) + COJT(N)	
CTTS	Cost of technical training school per man by AFSC to obtain 3-level skills.
COJT	Cost of on-the-job training per man by AFSC to obtain 5-level skills including nonproductive wages based on a factor of (1-KM(N)).

The cost of technical training school (TTS) per man by AFSC to obtain 3-level is computed from the following equation.

CTTS(N) = NWK(N) • (ACG(N) + CIC(N)) + PTT(N) + COT(N) + CACQ	
NWK	Course length in weeks.
ACG	Average cost per graduate (N) per week.
CIC	Capital investment cost prorated by AFSC(N) per week.
PTT	Pre-technical training school pay and allowance per man.
COT	Cost of type four and other training, not included in ACG, per man.
CACQ	Acquisition cost per man which includes recruiting, initial travel, initial clothing issue, and training at military training center.

Briefly, recapitulated, current TTS course lengths are used as a basis to assess the training of avionics technicians to the 3-level. To arrive at appropriate course lengths for the DAIS as well as the non-DAIS technicians, the tasks used to accomplish the on-equipment and shop maintenance functions were listed. Then the training times necessary to learn those tasks were extracted from the ATC training course charts. This made it possible to "build" a composite training program for personnel maintaining either configuration regardless of whether that AFSC is presently learning the subsystem. In certain cases for both configurations, an AFSC was assigned to maintain a subsystem not directly covered in an existent ATC technical training program. There are several possible reasons for this, including: (a) the AFSC traditionally received training on the subsystem through field training detachment (FTD) courses at the 3- or 5-skill level, (b) the AFSCs selected do not presently receive training on DAIS subsystems, or (c) only a generic class of equipment was taught rather than the specific subsystem. Where training times for these AFSCs could not be extracted or extrapolated from the ATC course charts, they were established through engineering judgement based on existent training curricula for comparable equipment.

Costs for technical training school were derived from data made available by ATC which are included as Table 5.10. These costs were converted to 1976 dollars by use of a deflation factor of 0.922 and used as the input variables to the CTTS equation for both non-DAIS and DAIS data banks. A value of $3,512 for the acquisition cost per man (CACQ) was obtained from the same source.

5.2.2.4 Cost of Replacement Spares, CSP

The cost of replacement spares (CSP) element is the annual cost of replacing condemned LRU and SRU spares in the shop and depot pipeline. The basic equation for CSP is thus the addition of the cost of LRU and SRU replacement spares terms, LRURS and SRURS respectively. These are the spares and modules that are normally repaired and returned to stock. However, the SRUs can also be "discard on failure" modules.

The value for the cost of LRU replacement spares, LRURS, term is obtained from the equation:

LRURS = NB • SUM(I)(ABFH • UC(I) • FCL(I) • PN(I)/ MFHBMA(M))	
NB	Number of bases.
ABFH	Annual base flying hours.
UC	Expected unit cost of LRU(I).
FCL	Proportion of NRTSed LRU(I)s expected to result in condemnation at the base/depot level.
PN	Probability of LRU(I) entering shop being sent to the depot for repair.
MFHBMA	Mean flight-hours between maintenance actions for subsytem (M) to which LRU(I) belongs.

This equation first computes the average number of LRUs and/or SRUs that are NRTSed at each base by using the expression ((ABFH) • (PN's))/MFHBMA. This value is then multiplied by the estimated proportion of the LRUs that are expected to be condemned (FCL) to determine the average number of replacement spares required. The multiplication of the unit cost per LRU (UC_i) summed across the LRUs completes the computation of the cost of base spares replacement. The PN and MFHBMA factors are each peculiar to the particular LRU. A value of 0.01 was used for the LRU condemnation terms, FCL, for both configurations.

The cost of SRU replacement spares value, SRURS, is obtained by the foregoing equation by: (a) substituting the probability of a shop bench-check and repair action (PW) of that LRU(I) for the PN term, (b) using an estimated condemnation rate for SRUs (FCS) in place of the FCL term, and (c) substituting the average cost of an SRU,

Table 5.10 – TTS Cost Factors.

AFSC	Course Length Hrs	Cost of Type 4 & Other Training ('78)$	Capital Investment Cost ('78)$	Pay & Allowances (PRE T.T.) ('78)$	Average Cost per Graduate ('78)$	Total ($\frac{'78\$}{'76\$}$ = 1.13) ('76)$/hr
322x1	1080	727	1,623	268	11,799	11.81
325x1	876	484	1,376	268	8,475	10.71
326xA 326xB	1288	545	1,824	268	17,421	13.78
326x1	1064	NA	1,564	268	13,384	12.68
326x2	728	NA	1,231	268	9,134	12.93
328x0	1120	109	1,647	268	13,508	12.27
328x1	1200	364	1,711	268	13,175	11.44
328x3	1320	182	1,910	268	16,344	12.54
328x4	960	400	1,432	268	15,640	16.35
404x1	904	NA	1,546	268	14,250	15.73
423x5	600	206	994	268	7,013	12.44
431x1	616	654	1,130	268	7,017	13.03
462x0	520	515	903	268	3,198	8.31

UCSRU, for the UC(I) values. This latter value is based on the assumption that each SRU in an LRU has the same cost and the same probability of failure. This assumption is based on the fact that SRUs are designed to approximately the same modular size to perform specific functions and have the same likelihood of contributing a random failure. An estimated value of 0105 was used for the disposal rate (FCS) for both non-DAIS and DAIS SRUs.

Reports No. 8B, Sections I and II, for non-DAIS and DAIS, respectively, provide the resultant cost values obtained from these computations for both LRUs and SRUs. A 12.5 percent decrease in overall spares cost per year is noted in the DAIS over the non-DAIS as shown in the following listing which contains the bottom line values from these reports.

Term	Total $ non-DAIS	Total $ DAIS	%
LRU Unit Costs UCLRU	817,859	781,471	-4.4
SRU Unit Costs UCSRU	128,565	178,558	+38.9
LRU Spares Cost LRURS	385,817	305,756	-20.8
SRU Spares Cost SRURS	402,450	383,812	-4.6
Total Cost per year	788,268	689,569	-12.5
Total Cost (15 years)	11,824,026	10,343,530	-12.5

This reduction is consistent with the 14.4 percent decrease in initial spares that was estimated and results from the improved reliability of DAIS core elements that replaced the non-DAIS LRUs performing the same functions.

5.2.2.5 Cost of Depot Repair, CDR

The CDR element accounts for all recurring depot costs of repairing LRUs and SRUs by subsytem, inciuding their shipping costs.

A discussion of the terms used in the following equation used to compute CDR will further define the cost factors included in this element.

$$CDR = NB \cdot SUM(I)(ABFH \cdot PN(I) \cdot (DC(I) + TC(I)))/MFHBMA(M) + NB \cdot NACB \cdot COS \cdot OHR$$

NB	Number of bases.
ABFH	Annual base flying hours.
PN	Probability of LRU(I) entering shop being sent to the depot for repair (R&M input).
DC	Average depot repair cost per LRU and its SRUS.
TC	Round trip transportation and packaging cost per item.
MFHBMA	Mean flight-hours between maintenance actions.
NACB	Number of aircraft per base.
COS	Cost of overhaul per system.
OHR	Overhaul rate - portion of systems overhauled per year from each base (reciprocal of years between system overhauls).

The last term computes the annual cost of overhaul of all systems deployed, or the contribution of the subsystems under study to that cost, as applicable. This term was set to zero for both configurations since overhaul costs are normally not associated with avionics.

The first term computes the number of LRUs that have been returned to the depot for repair per year, for the given annual base flying hours, based on their NRTS and MFHBMA rates. This number is multiplied by an average LRU repair cost (DC) and an LRU transportation cost (TC) to determine the cost of depot repairs. The average LRU repair cost multiplier (DC) must account for all manpower, material, and overhead cost factors sustained by a DoD centralized repair depot, Government or contractor operated. The transportation cost is computed as a function of each LRU's weight using standard packing and shipping cost factors.

The following equation is used to compute the round trip LRU transportation and packaging costs, TC(I).

$$TC(I) = W(I) \cdot RPUW \cdot 2 \cdot (PSC(1-OS) + PSO \cdot OS)$$

W	Weight in pounds of item (I).
RPUW	Ratio of packed to unpacked weight.
PSC	Average packing and shipping cost to CONUS locations.
PSO	Average packing and shipping cost to overseas locations.
OS	Proportion of total force deployed to overseas locations.

Standard USAF cost factors [1] were used for these terms for both configurations, whereby:

RPUW = 1.35, PSC = 0.53, and PSO = 0.99

No overseas deployment was used, therefore OS was set to zero.

Actual depot level maintenance costs per LRU, DC(I), were obtained from the IROS KO-51 data system. These costs are standard unit repair costs from G072A/B and other depot level repair management systems. To estimate the repair costs for new subsystems not yet in the active inventory, depot costs of currently operating systems having similar characteristics and components were chosen. This method provides representative depot cost data earlier in the acquisition process. By using this common source, the data is consistent with the overall accuracy of that used for the known inventory.

The KO-51 data product includes depot materials, labor, and condemnation costs by work unit code (WUC) and weapon system. However, there are many depot level activities and requirements that are not related to a WUC; hence, these IROS costs may be lower than actual costs experienced during depot maintenance. No attempt has been made to predict the actual depot costs. The following depot cost elements were not included in the available depot cost data.

1. Support and test equipment replacement
2. Technical publications
3. Training and personnel replacement

The total recurring cost of depot maintenance for a 15-year usage period is estimated at $27,799,000 for the DAIS, and $33,767,000 for the non-DAIS subsystems. This 17.7 percent reduction is attributable to any improved reliability in the DAIS core element LRUs over the conventional LRUs they replace.

5.2.2.6 Cost of Maintaining Support Equipment, CSE

This element provides for the annual recurring costs of the peculiar avionics shop SE maintenance, excluding manpower costs. The cost of manpower required to operate and maintain the SE is included in the Cost of Intermediate Shop Maintenance element (CSM). CSE allows for the cost of spare parts needed to maintain the SE, as well as the cost of replacement of the SE at the end of its useful life span.

The cost estimating equations used to compute the value of this element is based on a proportion (MSE) of the cost per type of SE (CPUSE) term used in the nonrecurring cost element CSEI. The entire equation for computing CSE including lower-level terms necessary to provide inputs are included in CSEI and will not be repeated here. A value of four percent per year of the CPUSE value was used for MSE to compute CSEI for both non-DAIS and DAIS.

It was postulated that the useful life span of the SE would be equal to the planned inventory usage period (PIUP) of the avionics equipment tested and therefore no new buy was provided for.

As noted in Report No. 9, the replacement cost per year of SE spares for the non-DAIS is $450,174 and for the DAIS is $557,096. The LCC for 15 years is $6,752,616 for the non-DAIS and $8,356,440 for the DAIS. This 23.8 percent increase is a direct result of the higher procurement cost for DAIS SE (CSEI).

5.2.2.7 Cost of Software Support, CSW

The annual software support cost (CSW) element includes the labor cost and computer costs required to perform software maintenance. For this LCC estimate, maintenance activity is defined to include error correction, but no improvement or enhancement. The prime driver of maintenance activity then becomes the error rate for a software system. Information on error rates was not available for either the non-DAIS or DAIS configuration, so a direct estimate of costs was not possible. Instead, historical data on weapon systems currently in inventory was combined with observations from the literature to assess the potential magnitude of the maintenance effort. The basic equation derived for CSW is:

$CSW = PC + SCC$
PC — Software labor cost for base year (t). SCC — Computer cost.

The CERs for these terms are derived in the following equations.

$PC = (NSS)(SLR)$
NSS — Average number of software support staff. SLR — Software staff labor rate.

$SCC = (CUR)(CC)(NSS)(12)$
CUR — Computer utilization rate in hours per man-month. CC — Support computer cost per hour. NSS — Average number of software support staff. 12 — Number of months per man-year.

The support cost is computed by estimating the staff required to perform error correction. Over the first five years, it is assumed that a staff of five people is required for DAIS, and the staff drops

to three for the last 15 years of the life cycle. An average figure of 3.5 men per year is used to estimate recurring labor and computer costs as shown in Table 5.11.

Table 5.11 - Input Values for Annual Software Support Cost.

Variable	Non-DAIS	DAIS
Labor Force:		
Years 1-5	8	5
Years 6-20	5	3
Staff Average (NSS)	5.75	3.5
Computer Utilization Rate (hrs/mm):(CUR)	12	12
Staff Labor Rate ($/year)	$20,000	$20,000

The initial five-person staff was established by assuming an annual program change rate of 3.5 percent and a maintenance productivity factor of 27.1 mm/1000 words (ten times the development factor). Therefore, the staff necessary to maintain the DAIS OFP of 63,416 words is obtained from the equation:

$$\text{Number of people} = 63{,}416 \text{ words} \times 0.035 \left(\frac{\text{change}}{\text{year}}\right) \times 27.1 \frac{\text{man-months}}{1000 \text{ words}} \times \frac{1 \text{ year}}{12 \text{ months}} = 5$$

Five years was selected as a conservative estimate of the time for avionics software to mature. Daly [14] observed that the major maintenance effort for real-time commercial software systems takes place during the first four years after development is complete. The reduced support staffing at the end of five years reflects the decrease in software errors that should occur as errors are corrected.

For conventional avionics software support, the support staffing is estimated as follows. Over the first five years, eight people are required with a decrease to five people over the last 15 years. This gives an average staff size of 5.75. This initial staffing was estimated by assuming an annual program change rate of five percent and a maintenance productivity factor of 120 mm/1000 or eight times the development rate. This compares with a five percent change rate and 142 mm/1000 factor used to estimate F-16 support costs. Therefore, the staff necessary to maintain the non-DAIS software programs of 16,000 words is calculated as follows.

$$\text{Number of people} = 16{,}000 \text{ words} \times 0.05 \left(\frac{\text{change}}{\text{year}}\right) \times \frac{120 \text{ man-months}}{1000 \text{ words}} \times \frac{1 \text{ year}}{12 \text{ months}} = 8$$

The same annual salary rate of $20,000 per year was assumed for both non-DAIS and DAIS. This value assumes government personnel support and is based on an average grade level of GS-11 and is the average annual cost of a civilian employee doing RDT&E specified in another document ([10] - Table 23).

The resultant LCC for a planned inventory usage period of 15 years is $4,209,000 for the non-DAIS and $2,562,000 for the DAIS configuration. This is an annual recurring cost of $280,600 for the non-DAIS and $170,800 for the DAIS.

This reduction in LCC is attributable to the characteristics of DAIS software which should reduce maintenance costs significantly over those projected for the non-DAIS configuration. These reductions should result from both the quality of the software initially delivered (fewer design and coding errors) and in the cost of implementing a specific correction. An indication of the magnitude of this reduction can be obtained by comparing DAIS development parameters with those used in an estimate of F-16 software support requirements [15]. A basic programming (code and debug only) rate of 10.4 mm/1000 words is inflated to account for other support activities and overheads to arrive at a rate of 142.4 mm/1000. While this productivity factor, together with a code change rate of about five percent, accounts for annual costs in the range ($.5M to $1.5M) reported for other avionics software, it represents 20 to 70 times the effort required for DAIS development (2.0 to 6.5 mm/1000).

5.2.2.8 Cost of Maintenance Manuals Support, CJG

The cost element of maintenance manuals support consists of costs incurred for updating, improving, or correcting the manuals. Periodically, changes are made to subsystem units for any number of reasons which may require a concurrent change in schematics or maintenance procedures as presented in the manuals. Occasionally, some procedures are found to be unnecessary or misleading, additional procedures or explanations are required, and typographical errors are found, all of which eventually are incorporated into the manuals. The equation used for determining this cost is:

$$CJG = (KPJG)(KCJG)(CJGI)$$

KPJG	Fractional estimate of the portion of the manuals that will be corrected and/or changed each year.
KCJG	Fractional estimate of the reduced cost necessary to rewrite the corrections as compared to the initial writing costs.
CJCI	Initial cost of maintenance manuals.

A recent survey indicated that about 15 percent of the pages in an avionics manual require some changing each year. This is true of both conventional technical orders, as used for the non-DAIS subsystems, and of job guides which are proposed for the DAIS subsystems. Similarly, it was determined that the cost per page of writing a change is approximately one half that of writing the original. This cost varied with the reason that necessitated the change and with the consideration that some changes are initially handwritten by the manual user. Again, this factor is about the same for both conventional and job guide manuals.

The total RC of a 15-year usage period of supporting maintenance manuals for the non-DAIS avionics subsystem is estimated at $1,990,000, and for the DAIS subsystems at $2,357,000. The reason that the DAIS cost is 18 percent higher is that the initial job guide manual procurement cost is higher by 18 percent.

5.2.2.9 Cost of Inventory Management, CIM

The CIM element is the recurring annual cost of managing the Air Force inventory of spare parts to support a system. When these spares have become a part of the Air Force-wide supply system (see CIMI element), they add to the cost of maintaining the supply system. The costs incurred include receiving, unpacking, storage, inspection, distribution, packaging, and crating. The material and personnel salaries needed to fill requisitions and maintain the inventory are also accounted for in CIM. The equation used to compute the CIM builds on that used for the CIMI and is as follows.

CIM = RMC • SUM(I) (NNII(I)) + NB • SA • SUM(I) (BLII(I))	
RMC	Annual management cost to maintain a line item of supply (assembly or piece-part) in the wholesale inventory system.
NNII	Number of new inventory items within each LRU(I).
NB	Number of bases.
SA	Annual base supply line item inventory management cost.
BLII	Number of base level inventory items per LRU(I).

The NNII(I) term is the same as for the CIMI equation, but the BLII(I) term is obtained from the following expression by adding the value SP to the NNII term.

BLII(I) = I + PA(I) + PP(I) + SP(I)	
PA	Number of new P coded repairable assemblies within the LRU.
PP	Number of new P coded consumable items within the LRU.
SP	Number of standard (already stocked NSN) parts within the LRU which will be managed for the first time at bases where this system is deployed.

Standard USAF cost factors of $129.16/item for RMC and $25,04/item for SA were used in these equations for both configurations [10]. The values for PA and PP were the same as for CIMI equation whereby off-the-shelf inventories were assumed except for the new DAIS SURs. No new base additions to standard stock parts (SP) was anticipated.

The LCC of inventory management, as shown in Figure 5.2, increases to $532,000 for the DAIS from $229,000 for the non-DAIS configuration. This increase is caused by the new repairable assemblies introduced into the inventory by the DAIS.

5.3 COST OF SYSTEM DISPOSAL, CDP

The category of cost of system disposal covers the expenses incurred, as well as any income derived from the termination of a weapon system at the end of its economic life. For example, these costs would include salvage value and such costs as "moth ball" storage. This cost category has been set to zero for purposes of the DAIS impact analysis since either configuration would have equal (negligible) cost values.

VI. RELIABILITY AND MAINTAINABILITY PARAMETERS

Reliability of equipment enters into a number of the cost element equations. The equipment reliability has been expressed as mean flight-hours between maintenance actions (MFHBMA) computed on a subsystem basis. The MFHBMA term is compatible with the field data used as input to the maintenance analysis conducted to obtain values for the terms that follow.

The MFHBMA values for a subsystem inherently include the failure and usage rates of its LRUs as shown in the following expression.

$$MFHBMA(M) = \frac{MTBMA(I,M)}{(QPA(I,M))} \cdot \left(\frac{1}{OH/FH}\right)(M)$$

MTBMA(I,M)	Mean time (operating hours) between maintenance actions for LRU(I) contained in subsystem (M).
$\frac{OH}{FH(M)}$	Equipment utilization ratio in operating hours per flight-hour.
QPA(I,M)	Quantity per application; such as, number of like LRU(I)s contained in subsystem (M). (Note that in cases where the subsystem contains different types of LRUs, the equation to be used would be: $MTBMA(I,M) = \frac{1}{\frac{1}{MTBMA_1} + \frac{1}{MTBMA_2} \cdots + \frac{1}{MTBMA(I)}}$

A value of unity was used for the utilization rate for all equipment used in both configurations with the exception of the DAIS processors where a value of two was used. The rationale for this is that the processors will be operated on the ground whenever testing itself and the various subsystems, or when power is applied to any of the avionics subsystems. The other subsystems, however, will have power applied only when necessary for their own operation or maintenance.

It should be noted that the term $MTBMA = \frac{OH}{MA}$ is directly related to the maintainability requirements of the subsystems, since:

MA = number of unscheduled maintenance actions recorded for the equipment =
$\Sigma(Repairs_{flightline} + Repairs_{shop} + CND_{FL} + CND_{shop})$

$Repairs_{shop}$	The bench test and repair or NRTS events required by any LRU removed from a subsystem for shop repair.
CND_{FL}	Cannot duplicate the subsystems discrepancy on the flightline.
CND_{shop}	Cannot duplicate the LRU discrepancy when tested in the shop.

The maintenance actions are broken down by actual maintenance events in the R&M portion of the RMCM computer program. The probability of occurrence (P_{ME}) and the average time (T_{ME}) needed to complete those events per maintenance action were derived from field data of comparable equipment in the maintenance analysis used to obtain the R&M inputs. The product of P_{ME} and T_{ME} provides the mean time to complete (MTTR) each maintenance action. The aggregated values by subsystem for these terms are included in Report No. 6 of Sections I and II. The analysis which culminated in the values obtained for the reliability and maintainability parameters that are used in this study are reported in other available documents for the non-DAIS [4] and the DAIS [5].

VII. CROSS REFERENCE LISTS

The following code, title, and definition lists are included in this section.

1. Non-DAIS support equipment ID codes/titles cross reference
2. DAIS support equipment ID codes/titles cross reference
3. AFSC ID codes/titles cross reference
4. AFSC skill level codes/definitions

7.1 NON-DAIS SUPPORT EQUIPMENT ID CODES CROSS REFERENCE

GM378	Mission & Traffic Control Test Station
HUDTS	Heads-Up Display System Test Set
LS83A	Camera System Test Set
1083S	Central Air Data Computer Test Station
3439M	Electrical Systems Test Station
6812M	Infrared Test Station
6850M	Communications & Navigational Aids Test Station
6863C	Navigation & Weapon Delivery Components Test Station
6868M	Radar Set Test Station
6872C	Radar Receiver-Transmitter-Modulator Test Station
6875C	Video Test Station
6876C	Indicators & Controls Test Station
6877C	Horizontal Situation Display Test Station
6891S	Homing-Warning System Test Station
6895S	Indicator-Servo System Test Station

7.2 DAIS SUPPORT EQUIPMENT ID CODES CROSS REFERENCE

ARFTS	RF Antenna Test Station
CMPTS	Computer Test Station
CNITM	Communication, Navigation, Identification Test Station
DTS	Displays Test Station
ICTM	Indicators & Controls Test Station
MWTS	Microwave Test Station

7.3 AFSC ID CODES CROSS REFERENCE

322x1	Weapon Control System Mechanic
325x1	Avionics Instrument Systems Specialist
326x1	Integrated Avionics Component Specialist
326x2	Integrated Avionic System Specialist
326xA	Avionics Support Equipment Specialist, Manual Test Stations
326xB	Avionics Support Equipment Specialist, Automatic Test Stations
328x0	Avionics Communications Specialist
328x1	Avionics Navigation System Specialist
328x3	Electronic Warfare Systems Specialist
328x4	Avionics Inertial & Radar Navigation System Specialist

404x1	Aerospace Photographic Systems Repairman
421x2	Aircraft Pneudraulic Repairman
421x3	Aerospace Ground Equipment Repairman
432x0	Aircraft Electrical Repairman
462x0	Weapons Mechanic
531x2	Metal Processing Specialist
431x1	Aircraft Maintenance Specialist

7.4 AFSC SKILL LEVELS

AFSC Code	Qualifications
xxx3x	Apprentice - a technician who can perform routine tasks on his own but usually acts as an assistant. The individual has been to school to learn fundamentals and may have had some formal training on the subsystem being worked on.
xxx5x	Specialist - a technician who knows the job through training and experience. The individual is capable of performing independent analyses and repair activities on subsystems and requires little to no supervision.
xxx7x	Technician/Supervisor - a technician who is capable of performing all tasks involving specific complex subsystems and their interfaces. Individual will be very well qualified through training and experience.

VIII. ACRONYMS

AFSC	Air Force specialty code
ATC	Air Training Command
BIT	built-in-test
BOQ	bachelor officer quarters
CAS	close-air-support
CER	cost estimating relationships
CITS	central integrated test system
CND	cannot duplicate discrepancy
DAIS	digital avionics information system
DoD	department of defense
FTD	field training detachment
GFE	government furnished equipment
HOL	higher order language
IROS	increased reliability of operational systems
LCC	life cycle cost
LCCIM	life cycle cost impact model
LRU	line replaceable unit
MMH/FH	maintenance manhours per flight-hour
MSL	manpower source listing
NRC	nonrecurring cost
NRTS	not repairable this station
NSN	national stock number
OFP	operational flight program
OTP	operational test program
PCS	permanent charge of station
RC	recurring cost
R&D	research and development
RDT&E	research, development, test and evaluation
R&M	reliability and maintainability
RMCM	reliability, maintainability, cost model
SAR	selected acquisition report
SE	support equipment
SPO	systems program office
SRU	shop replaceable unit
TTS	technical training school
WUC	work unit code

REFERENCES

1. Logistics support cost model user's handbook. Wright-Patterson AFB, OH: Air Force Logistics Command, June 1975.

2. Gaclowski, J. C., J.M. Glasier, R. H. Kistler, M. A. Bristol, H. A. Baran. Digital avionics information system (DAIS): Life cycle cost impact modeling system reliability, maintainability, and cost model (RMCM) - description users guide. AFHRL-TR-79-65. Wright-Patterson AFB, OH: Logistics and Technical Training Division, Air Force Human Resources Laboratory. August 1980. (AD-A089 045)

3. Management data lists of all federal stock catalog classes, FSC number ML-AF. Defense Logistics Agency, Battle Creek, Michigan, July 1976.

4. Engel, H. E., J. M. Glasier, R. A. Dowd, M. A. Bristol, H. A. Baran, and D. Dieterly, Digital avionics information system (DAIS): Current maintenance task analysis. AFHRL-TR-76-71, Wright-Patterson AFB, OH: Advanced Systems Division, Air Force Human Resources Laboratory, October 1976. (AD-A035 683)

5. Czuchry, A. J., H. E. Engel, J. M. Glasier, M. A. Bristol, H. A. Baran, D. L. Dieterly. Digital avionics information system (DAIS): Mid-1980s maintenance task analysis. AFHRL-TR-77-45, Wright-Patterson AFB, OH: Advanced Systems Division, Air Force Human Resources Laboratory, July 1977. (AD-A047 886)

6. Czuchry, A. J., H. E. Engel, R. A. Dowd, H. A. Baran, D. L. Dieterly, R. Greene. A mid-1980s digital avionics information system conceptual design configuration. AFHRL-TR-76-59, Wright-Patterson AFB, OH: Advanced Systems Division, Air Force Human Resources Laboratory, July 1976. (AD-A032 137)

7. Trainor, W. L. Analysis of DAIS mission software (MS) costs. DAIS Software Report #4. Wright-Patterson AFB, OH: Systems Avionics Division, DAIS Advanced Development Program Office, August 1974.

8. Dynamics Research Corporation Report E-4735U. Technical order content and cost algorithms (Modification of the JPA algorithms.) August 1978.

9. Tetmeyer, D. C., W. D. Moody. Simulating maintenance manning for new weapon systems: Building and operating a simulation model. AFHRL-TR-74-97(II), Wright-Patterson AFB, OH: Advanced Systems Division, Air Force Human Resources Laboratory, December 1974. (AD-A011 987)

10. USAF, Air Force Regulation 173-10, Volume I. Cost analysis: USAF cost and planning factors (U). 4 September 1976.

11. Air Force Manpower source listing for A-7D maintenance functions at England AFB. Langley Air Force Base, Virginia: 4400 Management Engineering Squadron, Tactical Air Command, October 1977.

12. Goclowski, J. C., A. J. Lofaso, S. E. Peskoe, M. A. Baran, D. L. Dieterly. Air Force personnel availability analysis: Program description for the personnel availability model. AFHRL-TR-79-6 Wright-Patterson AFB, OH: Logistics and Technical Training Division, Air Force Human Resources Laboratory, August 1980. (AD-A088 800)

13. Dynamics Research Corporation Report R-244U. Digital avionics information system (DAIS): Training requirements analysis model data base. August 1978.

14. Daly, E. B. Management of software development. IEEE Transactions on Software Engineering, Vol. SE-3, No. 3, May 1977.

15. Vendt, B. A. Software support for the F-16 avionic computers. Air Force Institute of Technology, Wright-Patterson AFB, OH, December 1975, AD-A020361.